
Water Quality Program Plan

Responses to Comments

WATER QUALITY PROGRAM PLAN

RESPONSES TO COMMENTS

1. Introduction

WQ 1.0.0-1

Participation in the Water Quality Technical Group and various other working groups is open to the public. Many scientists, regulators, and other interested parties attend these meetings.

WQ 1.0.0-2

The CALFED Bay-Delta Program (CALFED Program) is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals.

CALFED's Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's program can add value.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes, these targets are not regulatory but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

Dioxin, dioxin-like compounds, and furans have been listed as constituents that impair many parts of San Francisco Bay, reaching up to the Delta. The U.S. Environmental Protection Agency (EPA) lists these causes as resulting from atmospheric pollution. This and other information will be considered to determine whether these compounds will be added to the Water Quality Program Plan (WQPP). If added, more information would be sought before any CALFED actions are proposed to address source control of these compounds.

Program linkages are carried out between program managers in various fashions. The most significant linkage has been made by transferring those water quality activities that are directed at ecosystem health to the Ecosystem Restoration Program.

WQ 1.0.0-3

The goals specified in the WQPP are the goals for the plan and carry no regulatory weight. The proposal made to protect high-quality waters is contained in the California Water Code, usually termed “anti-degradation.” There are no proposals in the Water Quality Program to reduce the quality of any ambient water.

WQ 1.0.0-4

No actions in the WQPP restrict water uses. Controls of wastewater streams are proposed.

WQ 1.0.0-5

Each individual effort to assess and correct the temporal and geographic extent of a contaminant is preceded and followed by monitoring. Baseline monitoring for some constituents may be proposed through the monitoring and assessment branch of CALFED.

WQ 1.0.0-6

Development of numerical standards is the responsibility of regulatory agencies. CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED’s purposes, these targets are not regulatory, but represent levels that the Program is striving to attain through implementation of the Water Quality Program. Where standards do not exist, or where more restrictive standards are required to meet a goal, the standards may be proposed through a stakeholder process.

WQ 1.0.0-7

While reducing exports will increase water quality in some respects, it will not address the many pollutants that are discharged to our surface waters from various industries and past practices within our state. CALFED has proposed to address source control measures for many pollutant sources. Reducing exports would significantly affect California’s economy as other responses to comments will point out.

WQ 1.0.0-8

The “report card” will be obtained and used as a reference for staff. CALFED has often referred to other works in progress to maximize the benefit to environmental water quality. Leveraging efforts of others helps to coordinate effort, prevents duplication of effort, and steers effort in the most effective directions.

WQ 1.0.0-9

Water quality in the Sacramento-San Joaquin Delta is affected by many factors. Without intervention, some of the factors might not be addressed substantially or in a timely manner. Therefore CALFED is proposing to address many forms of water quality degradation in order to protect the beneficial uses of the water in the Delta. The WQPP describes, in various levels of detail, the projects that CALFED is proposing to improve water quality.

1.2 Vision

WQ 1.2-1

The ability to measure the effects of CALFED actions does depend on being able to establish initial conditions. The Drinking Water Quality Constituents Work Group, comprised of technical representatives of stakeholder organizations and CALFED staff, have been assigned the task of helping guide efforts to define baseline conditions for drinking water quality. Data collected under the Information Collection Rule should help substantially in defining conditions for contaminants of potential concern for future action. The product of the work team will be provided to the Delta Drinking Water Council for evaluation and will serve as the basis for recommendations to the Bay-Delta Advisory Council (BDAC) and CALFED management. CALFED plans to implement a comprehensive monitoring and research program to establish water quality baseline conditions in all areas where CALFED activities may produce water quality effects. Thorough assessments will be performed prior to implementing actions.

WQ 1.2-2

Preventing water quality pollution at its source is an important element of a multi-barrier approach to protecting the safety of drinking water supplies from the source to the tap. Seeking continuous improvement in source water quality by eliminating sources of pollution on an ongoing and progressive basis therefore may be entirely supportive of protecting public health—but cannot be an end in itself. Source water quality improvement is only one element of a comprehensive drinking water protection strategy that should also include treatment and alternative sources of supply. The CALFED strategy incorporates this concept. The Delta Drinking Water Council will be asked to provide recommendations for all these areas in fulfilling its mission to advise CALFED on the most appropriate means of assuring safe drinking water for consumers of water from the Delta. Some have suggested that the name of the Council be changed to better reflect its broad role to protect the safety of drinking water supplies taken from the Delta. The Council will be provided the opportunity to consider such suggestions and to propose a name change for CALFED approval, as deemed appropriate by the Council.

WQ 1.2-3

CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta estuary in order to minimize ecological, drinking water, and other water quality problems. As used by CALFED, “continuous improvement” means a steady, step-wise trend of water quality improvement over the 30-year time horizon of the Program. The WQPP identifies water quality objectives that are consistent with promoting a healthy ecosystem in the Bay-Delta and its tributaries, and identifies types of actions that are likely to be helpful in correcting water quality problems. The CALFED water quality objectives to protect ecosystem beneficial uses were derived through state and federal regulatory processes in which the public has been involved. Key water quality criteria for CALFED will continue to be developed in a broad, scientifically based, public setting with the involvement of the appropriate regulatory agencies, as opposed to more narrowly constituted local decision-making venues.

WQ 1.2-4

The WQPP envisions investment in advanced treatment methods, along with source control and alternative sources of supply as approaches to protecting the health of persons consuming water from the Delta. The level of investment in these activities will depend on available resources and on how these investments are apportioned among the various alternatives. The Delta Drinking Water Council and the BDAC are the primary forums through which stakeholders can affect these determinations. The CALFED water quality objectives for ecosystem

beneficial uses have been primarily derived from water quality criteria established by regulatory agencies that are intended to be sufficiently stringent to fully protect ecological resources. These criteria are evolving as new scientific findings are made and regulatory standards are revised. CALFED will continue to adopt established water quality criteria as appropriate to maintain the highest goals for protecting ecosystem functions and the safety of drinking water supplies taken from the Delta.

WQ 1.2-5

The WQPP includes substantial actions to reduce nonpoint sources of pollution, such as urban stormwater runoff and agricultural drainage. These actions are intended to significantly reduce water quality degradation from such agents as MTBE, petroleum products, toxic metals, animal wastes, and pesticides.

WQ 1.2-6

The goal of the Water Quality Program is continuous improvement, not just maintaining the status quo. The source control actions planned for Stage 1 will certainly reduce inputs of pollutants into Delta waters and will result in continual improvement in the quality of these waters as the actions proceed, compared to the situation that would exist in the absence of the program. Depending on what new disinfection and DBP regulations are adopted, and depending on the success of new treatment technologies and CALFED source control actions, it is conceivable that treating Delta waters to affordably produce safe drinking water could prove difficult or impossible in the future in the absence of physical changes to the system. Whether this situation will occur cannot be predicted at present. For that reason, CALFED intends to apply the principles of adaptive management to take step-wise actions toward the overall goal of providing good quality water for all uses, including drinking water supply. The Delta Drinking Water Council is the primary stakeholder venue through which this adaptive process for drinking water improvement will occur. The Council will be asked to assess the success of water quality improvement actions and to recommend further actions as necessary to adequately address water quality needs.

WQ 1.2-7

Various sources supply drinking water to communities in the Bay-Delta area, with significant variation in water quality. The CALFED Program is intended to apply to all municipal users of Delta waters. Accordingly, local communities experiencing water quality problems will be eligible to apply for funding to improve source water quality, develop alternate sources of supply, or upgrade treatment plant processes. CALFED recognizes that safe and palatable drinking water should be available to all users of Delta waters and is committed to helping achieve this end.

WQ 1.2-8

The Water Quality Program includes actions to address the known water problems of the Bay-Delta estuary. Elements of the program address low dissolved oxygen (DO), drinking water quality, mercury, pesticides, salinity, selenium and other trace elements, turbidity and sedimentation, and toxicity of unknown origin. Actions planned to address these problems are linked, in recognition that all beneficial uses of Delta waters must be improved together if ecosystem, agricultural, recreational, and municipal water supply interests are to be fully addressed. The Water Quality Program, in turn, is linked to the Water Use Efficiency element of the CALFED Program, which can provide additional water quality benefits through water conservation and water recycling projects. Water quality and water use efficiency actions will be implemented, and their success will be evaluated well in advance of decisions to create additional storage and/or conveyance facilities.

WQ 1.2-9

There are a number of successful examples of agricultural operations that are geared to minimize negative impacts on the ecosystem while providing positive ecological benefits such as habitat. Alternative pest management programs, for example, can reduce toxicity in the waters of the Bay-Delta estuary and can be considered eligible for CALFED participation. Other activities, such as reduction of soil erosion and sediment runoff, will generate benefits to the Bay-Delta estuary and may also be eligible for CALFED participation. As a stakeholder-driven process, CALFED places a high priority on developing working partnerships with local interests, such as growers and local environmental and watershed protection groups. This priority is reflected in the guidelines through which projects are selected for CALFED participation.

WQ 1.2-10

The source control actions planned for Stage 1 will certainly reduce inputs of pollutants into Delta waters and will result in continual improvement in the quality of these waters as the actions proceed, compared to the situation that would exist in the absence of the Program. Ongoing assessments will be made of the results. Through its adaptive management process, CALFED will identify the need for additional actions, including evaluation of storage and conveyance options, to achieve its long-term water quality objectives. Adaptive management will be accomplished through ongoing participation of interested stakeholders through the Delta Drinking Water Council and technical teams of CALFED staff and stakeholders that will support the Council.

Among the first tasks the Council will be asked to perform is to consider whether interim and/or long-term objectives for salinity should be established and to formulate recommendations for CALFED Policy Group approval.

CALFED has public health protection as its primary drinking water goal. Meeting current and future drinking water standards, and exceeding these standards where feasible, is the mechanism through which public health protection will be assured. This goal will be met through cooperative efforts among agencies supplying drinking water and CALFED to implement measures that will protect the quality of Delta drinking water sources, provide alternate source waters, and upgrade treatment as required.

WQ 1.2-11

CALFED's long-term water quality objectives for drinking water include a total organic carbon (TOC) concentration of 3.0 mg/L and a bromide level of 50 $\mu\text{g/L}$, or an equivalent level of public health protection to be provided by a cost-effective combination of alternate source water, source control, and treatment. This objective was established to meet the CALFED commitment of providing safe drinking water to users of Delta supplies. It is true that some CALFED actions, such as ecosystem restoration projects involving wetland creation, could result in negative impacts on Delta water quality if the impacts were left unmitigated. However, as one of its solution principles, CALFED is committed to avoid significant redirected impacts of its actions. During the implementation phase of the Program, water quality impacts must be identified, quantified, and documented. Pilot-scale testing will be required to verify performance predictions, and water quality impacts must be mitigated to less than significant as a condition of project implementation.

WQ 1.2-12

CALFED is committed to providing good water quality for all beneficial uses, including drinking water. Maintaining, protecting, and improving good quality drinking water sources is a key element of the Water Quality Program, as is reflected in the source prevention and source control actions that are planned under the program.

Together with actions geared toward source replacement and advanced treatment, CALFED source protection actions will help to ensure that drinking water providers will be capable of producing water that meets current and future public health protection standards.

1.3 Geographic Scope

WQ 1.3.0-1

The geographic scope is defined in Section 1.3 in the WQPP. The scope of the problem and solution area incorporate areas that may contribute to the problem and are therefore a part of the solution area, considering source control. In the case of exported water, the solution area is extended to the areas where water is delivered, in consideration of end-of-pipe treatment techniques. The CALFED Program is a cooperative, inter-agency effort of 15 state and federal agencies with management or regulatory responsibilities for the Bay-Delta that was formed to address the tangle of complex issues that surrounds the Delta. The CALFED Program is a collaborative effort including representatives of agricultural, urban, environmental, fishery, business, and rural counties who have contributed to the process. The BDAC, a 34-member federally chartered citizens' advisory committee, provides formal comment and advice to the agencies during regularly scheduled public meetings. In addition, the CALFED process has included members of the public in development of every Program component from ecosystem restoration to financing. Stakeholders participating in the CALFED process have identified significant concerns about virtually every component in the Program. CALFED has encouraged and solicited members of the public to review the material throughout development of the Program.

CALFED does not seek authority above any state or federal agency. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

WQ 1.3.0-2

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals. CALFED is not attempting to change area of origin water rights regulation (see common response 13).

The Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's program can add value.

CALFED has identified target levels for water quality parameters of concern. These targets represent desirable in-stream levels of these parameters that will serve as a measurement of success in evaluating the effectiveness of specific actions. The targets are based on published standards or objectives—either numeric or narrative—endorsed by regulatory agencies that are charged with enforcement of the standard or objective. For CALFED's purposes,

these targets are not regulatory, but represent levels that the Program is striving to attain through implementation of the Water Quality Program.

The total maximum daily load (TMDL) process, involving the EPA and the State and Regional Water Quality Control Boards (RWQCBs), is an example of a separate regulatory activity that can influence CALFED Program objectives. CALFED recommends that interested parties become involved with these regulatory processes, as public involvement is incorporated into these processes.

1.4 Water Quality Program Actions

WQ 1.4.0-1

Impacts from urbanization, industrialization, and agriculture have caused and continue to cause significant degradation of the water quality in the Bay-Delta, which is now listed as an Impaired Water Body. The Water Quality Program proposes to improve the water quality throughout the Delta and its tributaries through an extensive list of projects. We have active projects and proposed projects to reduce pesticide impacts, reduce heavy metals, eliminate toxicity in Bay-Delta waters, eliminate low DO conditions, reduce sediment and nutrient loading, reduce selenium and salinity loading, and improve drinking water quality through source control and improved treatment technology. Elimination or reduction of any industry is proposed as a final source control measure when other measures fail to achieve the goals of the program.

WQ 1.4.0-2

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

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WQ 1.4.0-3

While regulatory efforts are a part of the overall CALFED strategy, incentive-based efforts also play significant roles. The state's Nonpoint Source (NPS) Program uses a three-tiered approach: (1) self-determined

implementation of management measures, (2) regulatory-based incentives to implement management practices, and (3) effluent limitations and enforcement actions. The NPS Program recognizes that many NPS problems are best addressed through the self-determined cooperation of stakeholders. However, persistent NPS water quality problems that are not effectively resolved through self-determined actions will be addressed through regulatory programs and authorities. CALFED endorses the state's NPS Program and encourages its implementation, as well as other actions to augment its effectiveness. In some areas, studies are required to determine the most cost-effective method of solution prior to endorsement of an implementation program that includes these methods. Failure to identify cost-effective solutions would result in limited application of the solution.

WQ 1.4.0-4

CALFED is participating with regulatory agencies in the development of TMDLs and the implementation plans associated with the TMDLs. The implementation plans will contain measures by which the TMDL can be incorporated into the industry responsible for a portion of the pollutant reduction. CALFED is not a regulatory agency and does not assume regulatory authority to develop a TMDL. CALFED participates in gathering source identification information and environmental fate data, and investigating source control measures. Schedules for adopting TMDLs and associated source control measures are negotiated with CALFED regulatory agencies.

WQ 1.4.0-5

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals. CALFED actions in no way usurp the authorities of any regulatory or planning agency.

The Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's program can add value.

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WQ 1.4.0-6

CALFED is committed to working with stakeholders in order to develop the most reasonable approaches to problem solution as possible. While source control is a component of the strategy, CALFED is not limited to this solution. Where appropriate, CALFED will recommend consortium solutions that may include regional watershed efforts, pollutant trading, and public education.

WQ 1.4.0-7

Thank you for the contact names. We have worked with some of the contacts you suggest. The RWQCB and the San Francisco Bay Institute have been active in the CALFED process. We will add the remainder of the names to our contact list, and we will send them invitations to participate in stakeholder meetings.

WQ 1.4.0-8

CALFED is producing separate efforts at resolving different water quality problems within the San Joaquin River. The WQPP has addressed each of those problems in its separate chapters, on a programmatic level. More specific actions will be developed with stakeholder groups for individual impairment issues.

WQ 1.4.0-9

Proponents of the new developments will need to meet environmental compliance to prevent degradation of surface waters, among other requirements. CALFED will participate with local agencies to develop and implement management practices that will prevent degradation of surface water from existing and proposed developments. CALFED has already funded some research in pesticide reduction in urban streams.

WQ 1.4.0-10

Typically, water use efficiency measures would reduce the dilution of wastewater coming from homes and industry by small amounts. The net effect is similar to an aggressive inflow and infiltration correction project. The reduced hydraulic load would not affect how well the wastewater is treated. In this case, there should be no change in treatment system, either operation or facility. Changing the standard to which the wastewater is treated to meet a newly imposed standard is a different situation. The question becomes who will benefit from the changes and who is imposing the changes. The imposition of changes from entities other than CALFED should be negotiated with those agencies. CALFED is not a regulatory agency and proposes to make changes through incentives. Participation in the Program is on a voluntary basis.

WQ 1.4.0-11

Much of the changes proposed for the south Delta include permanent, operable barriers to capture water brought in with natural tidal fluctuations. Construction of barriers as a specific project of the CALFED Program will require a project-specific EIS/EIR to be completed before any of the proposed permanent, operable barriers could be built. In this environmental document, the effects of the barriers and the proposed mitigation will need to be spelled out. Individual effects of the project, as well as cumulative effects of the Program, will be studied to determine impacts. If the City of Tracy's discharge requirements are affected, mitigation must be proposed. Your comment has been brought to the attention of the work groups responsible for addressing the barriers.

WQ 1.4.0-12

Change from natural lands or even range lands to urban or industrial land uses has the potential to increase waste loads, from point or nonpoint sources. In many of the urban areas in California, increases are noted in the nonpoint discharge of pesticides, trace metals, nutrients, and turbidity. In the event that urban growth produces such increases, CALFED proposes development and implementation of control programs. These programs are intended to assist agencies that may be required to meet stormwater regulations. Information gathered through such a program may assist municipalities in selecting cost-effective, reasonable solutions to national regulatory

programs. Implementation of the control programs is seen as voluntary or incentive based. CALFED is not a regulatory agency and does not seek to change state or federal regulatory authority.

WQ 1.4.0-13

Pollutant sources are described in more detail in the WQPP. In some cases, it is difficult to sort out the natural and anthropogenic sources of a pollutant. This is true for salinity, turbidity, and other constituents that cause depletion of DO in the San Joaquin River. Further research is being conducted on identifying these sources. It is expected that work will proceed on reducing the effects of these pollutants on the river and uses of the water.

1.4.2 Background

WQ 1.4.2-1

Sufficient data do not exist to enable a complete determination of the effects of imported irrigation supplies on the quality of the San Joaquin River. Based on flow and electrical conductivity (specific conductance) measurements at the intake of the Delta-Mendota Canal (DMC) and on the San Joaquin River near Vernalis, a preliminary estimate is that about 80 percent of the salt load at Vernalis could be accounted for by the salt load entering the DMC, during the period of January 1990 through September 1996. Because this amount was estimated using limited data collected during an unusually dry period, the estimate may not represent normal conditions; however, it seems clear that a substantial portion of the salt load in the San Joaquin River comes from salt in the imported water.

WQ 1.4.2-2

The table has been corrected to indicate low DO, rather than dissolved solids. Mercury in the San Joaquin River is not checked on the table because (1) mercury in the San Joaquin River is not among the list of constituents impairing the quality of San Joaquin River water and the service areas, and (2) no actions to address mercury in the San Joaquin River are currently planned in these areas.

WQ 1.4.2-3

Water quality problems associated with these parameters have been identified by the State in accordance with the federal Clean Water Act (CWA). The Program used existing information from the CWA Section 303(d) list of impaired water bodies for California to identify the locations of beneficial use impairments associated with parameters of concern. The Section 303(d) list identifies water bodies with impaired beneficial uses, the parameters of concern within each water body that are thought to be responsible for the impairment, and the likely sources of the parameters of concern. Appendix B in the WQPP contains a list of the impaired water bodies within the Water Quality Program's geographic focus that were identified by the State in 1998, in accordance with the CWA Section 303(d). In May 1999, EPA made changes to the list that have been incorporated into Appendix B in the WQPP. A list of other documents used to support development of project actions and some drinking water impairment description have been included in Appendix F in the WQPP.

WQ 1.4.2-4

The concern about habitat restoration in areas with known high concentrations of methyl mercury has been brought to the attention of the Ecosystem Restoration Program and its stakeholders. The Ecosystem Restoration Program has multiple studies in development to address this and other issues related to mercury. To date, no habitat has been constructed in zones that have been shown to be high in methyl mercury. Corrective actions

to remove some mercury are proposed in the first few years of the program. Other studies are proposed to address concerns over toxicity and biological impacts of several contaminants of concern.

1.5 Pre-Feasibility Analysis

WQ 1.5-2

The goal of the CALFED Program is to reduce conflicts over water supply reliability, water supply system integrity, water quality, and ecosystem health in the Bay-Delta estuary. Program plans in each of these areas provide a blueprint for actions that will reduce conflict in the system. It is true that the CALFED Program will not resolve all problems associated with quantity, quality, and reliability of water supplies throughout California—especially as the population of the state continues to grow rapidly. The CALFED Program is intended to improve the quality of municipal water supplies taken from the Delta to the extent consistent with ecosystem, agricultural, recreational, and other uses of Delta waters. Because the Program will fall short of solving all drinking water quality problems, it probably will not result in solutions that eliminate the need for any future investments on the part of drinking water utilities to continue protecting public health.

2.1 Summary

WQ 2.1.0-1

The San Joaquin River experiences dissolved oxygen depression (low DO) in late summer and early fall each year. The DO problem is significant and is believed to cause a blockage to migrating salmon. The parties assembled to work on the problem have limited budgets. Therefore, CALFED identified the low DO situation in the San Joaquin River as a significant need and has awarded a grant for source identification. CALFED is working closely with the stakeholders involved in solving the problem

2.2 Problem Statement

WQ 2.2.0-1

The sentence is supposed to read: “Low DO impairs or blocks fish migration; kills aquatic organisms, including fish; creates odors; and impairs fish reproduction and juvenile rearing.” The change has been made in Section 2.2 in the WQPP.

WQ 2.2.0-2

The citation is The Central Valley RWQCB Control Board, Water Quality Control Plan, 4th Edition, dated September 1, 1998.

WQ 2.2-1

The recommended changes have been made in the WQPP.

2.4.1 Problem Description

WQ 2.4.1-1

CALFED acknowledges the investments already made by various agencies to resolve problems associated with reduced DO in the lower San Joaquin River. CALFED is committed to continuing support of the San Joaquin River Dissolved Oxygen Steering Committee in development of a TMDL for DO in the river. CALFED also acknowledges that the causes of the DO problem are complex and that no single action is likely to solve the problem. The WQPP has been revised to make this point more accurately. CALFED welcomes stakeholder participation in developing a more complete understanding of the problems and their solutions, which may include combinations of source control, flow enhancement, redirection of flows, and other approaches. CALFED is pleased to participate in working groups such as the Dissolved Oxygen Steering Committee and the committee planning for a barrier at the head of Old River. The participation of interested parties is welcomed by CALFED.

WQ 2.4.1-2

CALFED has performed extensive mathematical modeling to predict the water quality consequences of the CALFED Program, and continues performing this work, with extensive stakeholder involvement, as the Program evolves and additional project detail is developed. The results of completed work are publicly available, and will continue to be made available. Stakeholders will continue to be invited to public workshops and other venues through which they may participate in these developments. If the publicly available information is inadequate to answer technical questions, stakeholders are encouraged to contact the responsible CALFED Program Manager. The CALFED internet site (<http://calfed.ca.gov/>) contains results of completed studies and lists contact information for Program staff.

WQ 2.4.1-3

It is true that low DO conditions are a seasonal problem in some portions of the Delta. Presently, it is believed that the cause for the dramatic shift from acceptable levels of oxygen in the San Joaquin River to very low levels is a number of inter-related factors, including high nutrient loads from multiple sources along the San Joaquin River, algal growth and respiration, channel flows, tides, and channel geometry. Stagnation of flow in the vicinity of Stockton due to the combined effects of tides, low flow, and a sudden expansion of the river channel cross section where it meets the Stockton Deep Water Ship Channel exacerbate the effects of poor water quality on DO. When the temporary barriers in the south Delta are closed (head of Old River and/or three agricultural supply barriers) more flow is shunted down the San Joaquin River. The increased flow improves DO levels in the lower San Joaquin River during low-flow periods. A project-specific EIS/EIR will be completed before any of the proposed permanent operable barriers could be built. In this environmental document, the effects of the permanent operable barriers and the proposed mitigation will need to be spelled out. Your comment has been brought to the attention of the work groups responsible for addressing the barriers.

WQ 2.4.1-4

CALFED is participating in the process by providing funding for source identification and cause determination, funding facilitation for technical group meetings, and participating in steering committee meetings. CALFED is participating as a technical and funding partner. CALFED does not drive any of the decision making. If the activities of the steering committee were to depart from credible fact-finding and implementation methods, CALFED staff would not recommend further funding.

The recommended changes have been made in the WQPP. The tributaries referred to in this paragraph are the tributaries mentioned earlier, Little Johns Creek, Lone Tree Creek, and Temple Creek. These are predominantly urban drainage creeks that receive urban irrigation water and storm flow. A representative of the DeltaKeeper organization has stated that these creeks (and perhaps other as well) have very low DO during various times of the year. The oxygen-depleted water entering the river from these tributaries would exacerbate the current low DO conditions.

2.4.2 Approach to Solution

Section 2.4.2 in the WQPP has been modified under “San Joaquin River near Stockton” to include the most recent information on the progress of the study.

2.5.1 Problem Description

CALFED is not yet participating in the process. The role of CALFED will remain the same as described in response WQ 2.4.1-2.

2.6.1 Problem Description

CALFED is not yet participating in the process. The role of CALFED will remain the same as described in response WQ 2.4.1-2.

2.7.1 Problem Description

The recommended changes have been made in the WQPP.

2.7.2 Approach to Solution

CALFED has invested in a stakeholder group to solve the low DO problem in the San Joaquin River. The group was formed by the RWQCB to prepare a TMDL for constituents that cause the low DO conditions in the river. CALFED has been supportive of the process and intends to coordinate with the RWQCB in developing the implementation plan for the TMDL.

DO is an essential part of aquatic ecosystems. DO in the San Joaquin River has experienced significant depressions over the years. CALFED has invested in a stakeholder group to solve the low DO problem in the San Joaquin

River. The group was formed by the RWQCB to prepare a TMDL for constituents that cause the low DO conditions in the river. CALFED has been supportive of the process and intends to coordinate with the RWQCB in the development of the implementation plan for the TMDL. While flow plays a role in increasing the DO in the San Joaquin River, it is suspected that flow is not the sole cause. As is the case in salinity, more flow in the river reduces the in-stream problem but does little to correct the actual cause of the problem. Use of barriers and purchase of water for this purpose may result in significant adverse impacts on other parties. The stakeholder group and CALFED are committed to finding sources and causes, after which a corrective action plan will be proposed.

WQ 2.7.2-3

The sentence under “Existing Activities” in Section 2.7.2 in the WQPP inaccurately characterizes the Tuolumne River Technical Advisory Committee work. This sentence has been revised in the WQPP as follows:

“The Tuolumne River Technical Advisory Committee currently is funding work using a field technique that measures inter-substrate permeability.”

3. Drinking Water

WQ 3.0-1

Source control is a key element in CALFED’s water quality improvement strategy. Specific pollution prevention actions can be found in Table 3 (“Early Implementation Actions”) and Table 4 (“Stage 1 Actions”) in the June 1999 WQPP. The Implementation Plan contains similar information. Also see response WQ 12.0.

An evaluation of existing data by a group of technical specialists identified 26 parameters of concern (see Table 5.3.1 on page 5.3-10 in the June 1999 Draft Programmatic EIS/EIR). Dioxin was not considered a parameter of concern.

Both have been addressed in the Programmatic EIS/EIR and in the WQPP. Also see common response 14.

The Water Quality Program will reduce the discharge of contaminants to waterways in the Sacramento and San Joaquin River watersheds, which will reduce the concentration of contaminants at the drinking water pumps. An improvement at the pumps will result in an improvement at the tap. To provide safe water at the consumer’s tap, water agencies obtain source water of varying quality and then treat it as necessary to meet drinking water standards. Because the Delta is not a pristine source, water drawn from the Delta currently is treated, and always will need to be treated, before it is supplied to consumers. The value of the Water Quality Program is that it may reduce the mass of contaminants that must be removed at the treatment plant. Also see response WQ 12.0. Also see common response 9.

CALFED has no authority to establish water quality criteria or standards and must rely on entities with regulatory authority to establish and update water quality objectives that will protect ecosystem and other beneficial uses. The water quality objectives adopted by CALFED have been developed with appropriate public participation by those agencies with the necessary statutory responsibility. As these criteria and standards evolve through public processes, CALFED will modify its water quality objectives to be consistent with legally established criteria.

Providing incentive to stop irrigation of land that would leach pollutants is one management measure. In the case of marginal lands that are a source of selenium due to irrigation, CALFED plans to conduct pilot studies of

integrated on-farm management of selenium to develop and implement better source control management measures (see paragraph 2, page 12-5 in the June 1999 WQPP). Also see response WQ 12.0.

WQ 3.0-2

Please see common response 16.

WQ 3.0-3

Please see common response 15.

WQ 3.0-4

Please see common response 9.

WQ 3.0-5

Please see common responses 8 and 15.

WQ 3.0-6

Please see common response 15.

WQ 3.0-7

The Preferred Program Alternative will improve the quality of water supplied to the State Water Project (SWP); therefore, no adverse impacts will result to groundwater bodies recharged with water from the SWP.

WQ 3.0-8

The Preferred Program Alternative will improve the quality of water supplied to the SWP; therefore, no adverse impacts will result to water conservation or water recycling programs.

WQ.3.0-9

The Programmatic EIS/EIR acknowledges that the Ecosystem Restoration Program may result in an increase in dissolved organic carbon (DOC) concentrations in Delta waters. It is expected, however, that the water quality improvements resulting from the conveyance element of the Preferred Program Alternative will more than offset any increase in DOC attributable to the Ecosystem Restoration Program. The conveyance improvements are also expected to reduce bromide concentrations at the export pumps.

3.1 Summary

WQ 3.1-1

The recommended changes have been made in the WQPP.

WQ 3.1-2

The terms “salts,” “salinity,” and “dissolved salts” were frequently used in preference to the more technically correct “dissolved solids” to enhance readability for persons who are unfamiliar with water quality terminology and would not understand the connection of salts to dissolved solids.

3.2 Drinking Water Focus of the Water Quality Program

WQ 3.2-1

The CALFED drinking water objective is to protect the health of consumers by pursuing measures such as source control, alternate source waters, and treatment. To fully protect public health, the water must be safe to drink when it arrives at the taps of consumers. Accordingly, actions that may affect all parts of the system from source waters, through treatment, to delivery of finished drinking water to consumers, is within the identified scope of the CALFED Program. The appropriate division of investments among the various approaches must be determined with the involvement of the stakeholders. The Delta Drinking Water Council and the BDAC are venues through which public involvement is enabled. CALFED welcomes all interested parties to participate in helping to determine the most appropriate emphases for correcting drinking water problems associated with Delta waters.

WQ 3.2-2

Depending on what new disinfection and DBP regulations are adopted, and depending on the success of new treatment technologies and CALFED source control actions, it is conceivable that treating Delta waters to affordably produce safe drinking water could prove difficult or impossible in the future in the absence of physical changes to the system. Whether this situation will occur cannot be predicted at present. For that reason, CALFED intends to apply the principles of adaptive management to take step-wise actions toward the overall goal of providing good quality water for all uses, including drinking water supply. The Delta Drinking Water Council is the primary stakeholder-driven venue through which this adaptive process for drinking water improvement will occur. In the event that safe drinking water could not be affordably produced through other source control and treatment options, the scope of the CALFED Program allows for consideration of facilities to bring about the necessary improvements.

WQ 3.2-3

The recommended changes have been made in the WQPP to clarify that the Section 303(d) list is directed at constituents of ecological importance and does not include all drinking water contaminants of concern. The WQPP uses the Section 303(d) list that was published in 1998 and updated in 1999.

WQ 3.2-4

CALFED recognizes that the willingness of urban water suppliers to contribute to Delta solutions depends on the ability of the CALFED Program to provide water quality and water supply reliability benefits to these

agencies. Consistent with the principle that beneficiaries pay, CALFED intends to provide benefits to the urban water agencies that will increase their willingness to contribute to solving the problems and enable investments to be made to the maximum benefit of the Bay-Delta system.

3.3 Problem Statement

WQ 3.3-1

The recommended change has been made in the WQPP.

3.4 Objective

WQ 3.4.0-1

CALFED proposes to provide good quality water through improving source water quality and other means. Other methods for drinking water improvement might include treatment technologies. References to continuous improvement is directed toward drinking water deliveries. The drinking water considerations have been separated from the ecosystem water quality actions to establish the prominence of drinking water issues and integrate ecosystem water quality issues with other ecosystem actions. Studies are necessary to determine the degree to which activities can contribute to the solution.

WQ 3.4.0-2

Stakeholders have recommended establishment of intermediate water quality milestones for salinity in water diverted from the Delta. Values of 220 mg/L and 150 mg/L total dissolved solids (TDS) have been recommended as salinity targets. The Delta Drinking Water Council will be asked to consider the need for a salinity target and may recommend that a target be established by the CALFED Policy Group. The Delta Drinking Water Council also will be asked to consider the need for a dedicated Water Quality Account to fund drinking water actions. The Council may recommend to the CALFED Policy Group that such an account be established.

WQ 3.4.0-3

The goal of the Water Quality Program is to provide good-quality water for environmental, agricultural, drinking water, industrial, and recreational beneficial uses of water. Reducing bromide and TOC levels in export water would fall under the drinking water category. While many programmatic actions are recommended in upstream portions of the watershed, not all of these actions are meant to address drinking water quality issues, as your comment suggests. Many environmental and agricultural water quality issues will be addressed in upstream areas in the watershed. Actions to reduce bromide and TOC are largely concentrated within the Delta.

3.5.1 Pathogens

WQ 3.5.1-1

Although existing data suggest that pathogen levels in Delta waters may be relatively low in some circumstances, the available data are very limited, and serious technical weaknesses exist in the methodology that was used to analyze the samples. The statement has been deleted from the WQPP.

3.5.2 Disinfection By-Products

WQ 3.5.2-1

The recommended changes have been made in the WQPP, except the statements about a possible Stage 3, which is too speculative.

WQ 3.5.2-2

While chlorine is known to produce unwanted, and potentially harmful, chemical by-products when it is used for disinfecting drinking water, chlorine is also known to be a very effective agent for protecting against waterborne disease. Newer technologies, such as ozone and ultrafiltration, hold significant promise for improving the safety of drinking water both by improving the quality of disinfection and by reducing production of unwanted chemical by-products. Unfortunately, however, no ideal solution has been developed. While ozone is a strong disinfectant and reduces some types of chemical by-product formation, it also produces chemical by-products—some of which may prove to be at least as harmful as those produced by chlorine. Ultrafiltration and nanofiltration are technologies offering the theoretical possibility of removing harmful constituents while adding nothing, but the technical feasibility and cost effectiveness of these techniques have not yet been fully demonstrated. Because of the need to further develop other technologies, it is not yet feasible to discontinue the use of chlorine. Despite the problems associated with chlorine, it has been used with relative safety since the turn of the last century and has prevented countless cases of disease. No other disinfection technique has been as well demonstrated.

WQ 3.5.2-3

The WQPP has been changed to clarify this point.

WQ 3.5.2-4

The recommended change has been incorporated into the WQPP.

3.5.3 Treatment Control of Disinfection By-Products

WQ 3.5.3-1

The recommended changes have been made in the WQPP.

WQ 3.5.3-2

The recommended changes have been incorporated into the WQPP.

3.5.4 Source Control of Disinfection By-Products

WQ 3.5.4-1

At the current programmatic level of detail, it is not yet clear how all of the various ecosystem restoration actions will be financed. Until specific project plans (including financing plans) can be formulated, it will not be possible to answer all questions concerning funding for mitigation measures. Notwithstanding the present inability to specify how mitigation would be funded, CALFED is committed to adequate investigation of potential negative

impacts of ecosystem restoration measures and to full mitigation of any such impacts as a condition of projects moving forward to implementation.

WQ 3.5.4-2

CALFED ecosystem restoration actions may have the potential for degrading water quality, at least over the near term. The pilot-scale testing, monitoring, and assessment that will accompany each of these actions will determine whether any negative water quality impacts are occurring. If this should prove to be the case, mitigation measures will be employed to reduce the impact to a less-than-significant level. Potential mitigation measures might include actions such as impounding water to reduce impacts of turbidity and treatment of discharges to remove metals, organic carbon, and other undesirable constituents.

Wetlands has been added to the sources of organic matter identified on page 3-9 in the June 1999 WQPP.

WQ 3.5.4-3

Implementation of Ecosystem Restoration Program actions has the potential to change land and water use patterns. The program also could potentially cause impacts such as increased evaporation and increased salinity levels in some areas and at some times and, possibly, some alteration in the ability to control salinity intrusion from the ocean. At the current programmatic level of detail, it is not yet possible to define CALFED ecosystem restoration projects with sufficient clarity to enable a quantitative analysis of salinity effects. Through its adaptive management process, CALFED will develop and apply analytical tools, such as mathematical modeling, to thoroughly assess projects as they are developed, to prepare the necessary environmental impact documentation, and to implement appropriate mitigation measures as a condition of going forward with projects. Examples of possible mitigation measures might include funding alternative water sources and funding treatment and/or prevention measures to reduce water quality impacts to a less-than-significant level.

WQ 3.5.4-4

CALFED is committed to achieving continuous improvement in the quality of the waters of the Bay-Delta estuary in order to minimize ecological, drinking water, and other water quality problems. As used by CALFED, “continuous improvement” means a steady, step-wise trend of water quality improvement over the 30-year time horizon of the Program. Although short-term fluctuations in water quality will be taken into account in project planning and will be avoided where possible, it is not feasible to guarantee that no water quality parameter will be temporarily reduced in quality, as such reductions may prove a necessary sacrifice to secure larger and longer term water quality benefits.

WQ 3.5.4-5

An improvement in water quality at water supply diversions is one of the goals of the CALFED Program. As noted in the Programmatic EIS/EIR, implementation of the Preferred Program Alternative would improve water quality in the Delta, including at the water supply intakes. The improved flow of good-quality water across the Delta from the Sacramento River would be expected to reduce the DOC content of water withdrawn at the intakes. The improvement in DOC content may be supplemented or offset by an alteration in DOC concentration as a consequence of the Ecosystem Restoration Program. (It is not yet known if conversion of irrigated agriculture to wetlands in the Delta will increase or decrease DOC concentrations.)

The Preferred Program Alternative is expected to lower the salinity of water at the south Delta export pumps relative to the No Action Alternative. It is expected that the bromine concentration would also be reduced at that location.

3.5.5 Total Dissolved Solids, Salinity, Turbidity, and Nutrients

The recommended changes have been made in the WQPP.

Stage 1 actions to improve water quality rely primarily on source controls. The CALFED Preferred Program Alternative indicates that if the Stage 1 actions do not achieve drinking water goals, a screened diversion facility on the Sacramento River would be built—provided fishery concerns can be satisfactorily addressed.

The recommended changes have been made in the WQPP.

3.6 Approach to Solution

The June 1999 WQPP listed Stage 1A (“Early Implementation Actions”) and Stage 1 actions in Tables 3 and 4, respectively, along with proposed schedules for completion. These lists were consistent with the water quality actions listed in the Phase II Report and, with minor exceptions, those in the Implementation Plan. The identified discrepancies have been corrected in the Implementation Plan. Tables 3 and 4 have been deleted from the WQPP.

The Programmatic EIS/EIR is intended to establish an overall framework within which detailed project planning and implementation will go forward. It is therefore appropriate and necessary that such a level of detail is lacking from the programmatic document. CALFED is committed to the principle of continuous improvement in the water quality of the Bay-Delta estuary until these waters are of good quality to support all beneficial uses, including drinking water supply. CALFED is also committed to ongoing stakeholder involvement in planning and implementing effective water quality improvement actions. CALFED has recently formed a Delta Drinking Water Council comprised of interested stakeholders including suppliers of drinking water taken from the Delta. The Council, supported by a committee of stakeholder technical experts and by independent scientists as needed, will advise CALFED management on implementation of effective drinking water quality actions. The scope of planned drinking water quality actions is by no means limited to source control, although some source control actions were given high priority for implementation because they could be rapidly implemented, because implementation costs can be lower than for more complex actions, and because they are expected to produce measurable results in terms of reduced loadings of constituents.

Currently proposed CALFED source control actions are likely to be somewhat limited in their capacity to improve Delta water quality. On the other hand, safe drinking water is presently being produced from the Delta,

as defined by current ability to meet drinking water standards. If drinking water regulations were to remain unchanged, it is probable that safe drinking water could continue to be produced from the Delta, even without CALFED actions. It is not yet clear what level of source water quality improvement will be necessary to meet CALFED drinking water quality goals, as it cannot now be determined what future standards will need to be met, or what the schedule for needed changes should be. If meeting these needs requires further actions, these are within the scope of the Program. CALFED's adaptive management approach is designed to be responsive to changing needs and conditions, to arrive at solutions that fit future needs. Through its adaptive management process, the Delta Drinking Water Council will be asked to consider the need for interim water quality milestones and timetables for action.

WQ 3.6-3

Please see common responses 11 and 12.

WQ 3.6-4

Recent research findings have indicated that young animals are particularly prone to infection by the protozoan pathogen *Cryptosporidium* and appear to shed large numbers of organisms into the environment. Adult animals, by contrast, appear to be much less prone to shed *Cryptosporidium*. Further research on wild and domestic animals as sources of pathogens may provide information that can be used to improve source water quality management and is planned as part of the drinking water quality program. This work will be scoped and planned with the assistance of stakeholders through the Delta Drinking Water Council and through the Water Quality Constituents Workgroup, the stakeholder group who provide technical assistance to the Council. The participation of urban, agricultural, and environmental stakeholders is welcomed.

WQ 3.6-5

- (i) Text has been changed in the WQPP.
- (ii) See response WQ 3.6-1.
- (iii) See response WQ 12.7.5-2.
- (iv) The text was not meant to imply that the Municipal Water Quality Investigation (MWQI) was conducting all the studies listed. The text has been changed in the WQPP to identify the implementing organizations with each study.
- (v) Text has been added that includes a priority action to better manage dairies and other confined animal feeding operations.
- (vi) Text has been changed; turbidity has been added to TOC as drinking water constituents of concern at the North Bay Aqueduct (NBA). The Colusa-Tehama reference has been changed to "Tehama-Colusa."
- (vii) Text has been changed in the Final WQPP.

WQ 3.6-6

CALFED is committed to developing the drinking water quality program with the continuing assistance and participation of stakeholders, particularly through the Delta Drinking Water Council and its technical support

groups of stakeholders. Water quality actions have not yet been developed to the point of making an absolute commitment to implementation in Stage 1A or Stage 1. Consequently, there is some lack of clarity as to the difference between planned actions, identification of information needs, and assignment of priorities for action. Work on developing the actions will proceed at a high pace, consistent with the need for continual involvement of stakeholders. At the current programmatic level of detail, broad linkages among Program elements have been identified, such as potential negative impacts of ecosystem restoration actions on drinking water quality. It is true that linkages among Program elements must be specified in much greater detail; but it is also the case that much of the needed specificity can occur only when detailed actions are planned during the implementation phase of the Program.

3.6.1 Bay-Delta Region

WQ 3.6.1-1

As part of its implementation strategy, CALFED will conduct field evaluations and pilot-scale testing to evaluate and quantify benefits from actions designed to reduce bromide and TOC prior to making large-scale investments. Also, CALFED is developing analytical tools that enable prediction of the bromide and TOC consequences of implementing CALFED actions. As this information is produced, it is being made publicly available. CALFED extends its invitation for participation of interested technical experts in this ongoing analytical process.

WQ 3.6.1-2

The recommended changes have been made in the WQPP.

WQ 3.6.1-3

At the current programmatic level of analysis, the listed priority actions constitute concepts for further investigation. At this stage of Program development, there has been no attempt to assess the feasibility or cost effectiveness of the listed measures and, indeed, the list was developed to help direct resources toward further needed investigations—including pilot studies. CALFED makes no commitment to attempt to implement any measures that are proven by further investigation to be unworkable, nor does it have any regulatory authority that would allow such measures to be imposed. From the outset, the CALFED Program has emphasized voluntary, cooperative efforts to help reduce conflict in the Bay-Delta estuary system. CALFED welcomes the participation of all stakeholders to identify areas for cooperation in evaluating technical and economic options for making improvements.

WQ 3.6.1-4

The WQPP emphasizes salt problems in the San Joaquin River because the subject is well documented and because salt from this source seriously affects the quality of Delta waters. Salt loadings to the Sacramento River are not documented as well. Salt sources within the Delta, except for the Pacific Ocean, are also less well documented than is the problem in the San Joaquin River watershed. The lack of detail in the WQPP concerning salt sources in the Sacramento River and Delta does not imply a lower commitment to evaluating these sources and taking corrective actions as warranted. One means of reducing salt loading to the Sacramento River will be through the CALFED water quality action to reduce wastewater and stormwater sources of drinking water constituents of concern.

WQ 3.6.1-5

CALFED does not endorse any of the listed existing activities for water quality improvement but intends to support them for further studies to the extent warranted. These activities are being conducted by other agencies and stakeholder groups. CALFED makes no commitment to implement any of these measures until they are proven to be feasible through the stakeholder process.

WQ 3.6.1-6

A treatment system for this proposed action has not been formally proposed. Any treatment system proposed will be evaluated with a project-specific environmental document, which will address this issue. The object of the treatment is to remove the TOC rather than the salt. Removing salts would require a significantly high level of treatment. If salts are removed, mitigation measures must be recommended to prevent salt buildup on Delta islands. Salt can be leached at advantageous times (this is already a practice on Delta islands), or filter reject containing high salts can be disposed of in appropriate receiving waters under appropriate discharge permits.

WQ 3.6.1-7

The Stage 1A actions identified thus far can be augmented by other actions, depending on the availability of resources and assignment of priorities for Water Quality Program actions. Stakeholder involvement has been, and will continue to be, actively sought in the evolution of the Water Quality Program, including selection of projects for high-priority implementation. The Delta Drinking Water Council and the technical teams supporting the Council are primary avenues through which stakeholder assistance is invited.

3.6.2 Sacramento and American Rivers

WQ 3.6.2-1

The recommended changes have been made in the WQPP.

WQ 3.6.2-3

Thank you for the resource and information. Prior to embarking on prioritizing this action, the work group will be given this information. This information may save valuable time and resources.

WQ 3.6.2-4

The comment is based partially on the view that an isolated facility is required to meet target levels for bromide, TOC, and salt in the export water from the Bay-Delta. Target levels being discussed have not been adopted by a regulatory agency and therefore do not have the weight of regulation behind them. Furthermore, the proposal for an isolated facility needs much more study and stakeholder approval before it is readied for construction. In this process, Sacramento County and other affected communities will be included in the impact analysis. Any redirected impacts identified in that process would be subject to mitigation measures. If at that time, additional treatment systems would be required, above and beyond what is required without the project, costs for such treatment would be borne as a project expense.

While, in concept, your suggestion to collect grey water in the Central Valley and transport it to a high-tech treatment system in the Delta would work, it is likely highly impractical. Costs for separating sewage and grey water, installing separate collection systems, buying right-of-way for transmission pipelines, siting and construction of the treatment plant, and operations and maintenance would be prohibitively expensive. Some older municipalities operate combined stormwater and sewage systems. For example, both Sacramento and San Francisco have combined systems. These communities strive to separate the two systems and have been doing so for several years. Costs of such endeavors prevent quick implementation. Further separation of sewage from grey water also would be prohibited by cost, although cities like San Francisco and Sacramento have implemented reclamation systems that produce similar effects. Reclamation of sewage for irrigation displaces fresh water that would normally be used for irrigation purposes. In doing so, river flows and groundwater are not used to meet water needs in the community. River flows remain for use in the environment and groundwater remains as a reserve during drought periods. CALFED's Water Use Efficiency Program is working on methods such as these to maximize the benefit of procured water.

3.6.3 North Bay Aqueduct

WQ 3.6.3-1

The recommended change has been made in the WQPP.

3.6.4 South Bay Aqueduct

WQ 3.6.4-1

CALFED is committed to continued stakeholder involvement in developing plans to address the water quality problems of the Bay-Delta estuary. Of particular importance is prioritizing actions for implementation. Stage 1A and Stage 1 actions have been identified in a preliminary fashion, but considerable evolution of these plans remains to be accomplished. The work in progress represented by Stage 1A and Stage 1 plans is subject to change, consistent with the CALFED adaptive management philosophy, in conjunction with ongoing stakeholder support and involvement. As a programmatic document, the CALFED Programmatic EIS/EIR is intended to establish the basic framework supporting detailed plans that will evolve with appropriate stakeholder input. Accordingly, currently identified Stage 1A and Stage 1 actions reflect progress made to date and are incomplete. Linkages of priority actions described in the WQPP and plans for Stage 1A and Stage 1 are not as yet fully formed, nor is the exact sequence of water quality actions defined. Therefore, the information does not currently exist to enable the WQPP to be amended to include this detail.

At the current programmatic level of analysis, the listed priority actions constitute concepts for further investigation. At this stage of Program development, there has been no attempt to assess the feasibility or cost effectiveness of the listed measures and, indeed, the list was developed to help direct resources toward further needed investigations—including pilot studies. CALFED makes no commitment to attempt to implement any measures that are proven by further investigation to be unworkable, nor does it have any regulatory authority that would allow such measures to be imposed. From the outset, the CALFED Program has emphasized voluntary, cooperative efforts to help reduce conflict in the Bay-Delta estuary system. CALFED welcomes the participation of all stakeholders to identify areas for cooperation in evaluating technical and economic options for making improvements. Existing programs and processes will be used to the extent that such processes are available.

The service areas of the SWP are within the defined geographical scope of the CALFED solution area, meaning that CALFED may undertake actions in these areas that would help to solve the problems of the Bay-Delta estuary. Examples might include fostering water conservation and recycling programs in southern California, and addressing problems that affect the quality of drinking water produced from the Delta source. Because multi-purpose uses of Castaic Lake and Lake Silverwood, and activities in the watershed of these lakes can affect the quality of drinking water supplies diverted from the Delta, water quality actions can be considered through the CALFED Program that would help to resolve these problems.

3.6.6 Contra Costa Water District Intakes

WQ 3.6.6-1

The Phase II Report is intended to disclose the broad framework of the CALFED Program elements and to describe how these elements contribute comprehensively to reducing conflict in the Bay-Delta system. To enhance the readability and reduce the size of this overview document, the decision was made that Program detail would be left to the Program documents, such as the WQPP and Implementation Plan. The lack of a specific commitment in the Phase II Report does not change the commitment to action as specified in the WQPP and Implementation Plan.

3.7 Capacity for Reducing Bromide and Organic Carbon Through Water Quality Program Actions

WQ 3.7-1

CALFED commissioned a panel of nationally recognized independent scientists to consider bromide and organic carbon in relation to meeting CALFED's objective of providing drinking water from the Delta that meets current and future standards for protecting public health. This panel provided information that helped the CALFED Policy Group in establishing the CALFED long-term water quality objective for a TOC concentration of 3.0 mg/L and a bromide level of 50 $\mu\text{g/L}$, or an equivalent level of public health protection, to be provided by a cost-effective combination of alternate source water, source control, and treatment. Recognized independent scientists will continue to provide advice and guidance to the CALFED drinking water quality program as it evolves. CALFED is committed to the concept of protecting public health, not necessarily to achieving specific numeric objectives for water quality. CALFED will certainly not achieve the targets for TOC and bromide during the first years of Program implementation and may never achieve these targets if source control, source replacement, and treatment approaches are able to meet the primary objective of adequately protecting public health. Evaluating the feasibility and cost effectiveness of these alternatives will be the primary task of the first 7 years of Program implementation, after which it should be possible to make a determination on the need for construction of Delta facilities.

WQ 3.7-2

The long-term bromide target of 50 $\mu\text{g/L}$ and the TOC target of 3.0 mg/L, or an equivalent level of public health protection, do apply to the NBA intake as well as to the other drinking water diversions in the Delta. The WQPP has been revised to clarify this point.

3.7.1 Bromide

WQ 3.7.1-1

We acknowledge that the information in Figures 7 and 9 in the June 1999 WQPP might be presented in a number of ways, and perhaps a time history plot would be a superior means of illustrating the relationship of bromide loadings at the DMC intake and at Vernalis and of bromide loadings in the San Luis Reservoir area. Other means of presenting the data would not be likely to change the tentative conclusions that most of the bromide found at Vernalis can be accounted for by inputs to the San Joaquin Valley from the DMC, and that most of the bromide in San Luis Reservoir can be accounted for by loadings from the SWP and Central Valley Project (CVP). Further evaluation of non-oceanic sources of bromide is planned for CALFED during the implementation stage of the Program. This additional work will involve various forms of data evaluation and presentation, probably including time history plots. Further investigation of non-oceanic sources of bromide in the system will involve analysis of pumping and precipitation data to conclusively demonstrate whether non-oceanic sources of bromide are important in solving bromide problems in drinking water supplies taken from the Delta.

WQ 3.7.1-2

CALFED needs to further evaluate the sources of bromide and to institute corrective actions where feasible in order to reduce contributions of bromide and to achieve long-term source water quality targets. Bromide is present in sea water, and enters into the Delta drinking water supplies primarily through mixing with waters of San Francisco Bay and the Pacific Ocean. Other sources of bromide may exist. For instance, the average concentration of bromide in Sacramento River water was $18 \mu\text{g/L}$. By contrast, San Joaquin River water averaged $310 \mu\text{g/L}$, with a standard deviation of $150 \mu\text{g/L}$ during the same period. Although bromide concentrations in the Sacramento River are variable, this river does not appear to be an important source of bromide. It appears that the San Joaquin River is the most important source of bromide to the Delta system, exclusive of the Bay-ocean. This component of bromide load would be significantly affected by the choice of storage and conveyance alternatives. A question of great importance to the CALFED Program, and one that is directly related to your concern, is "How much of the bromide load in the San Joaquin River is not of Delta or ocean origin (e.g., connate groundwater or ancient sea water) and may then be subject to control by Water Quality Program actions?" Further evaluations by CALFED will provide us with a basis for realistic expectations with respect to water quality targets for municipal supplies from the Bay-Delta of $50 \mu\text{g/L}$ for bromide, or an equivalent level of public health protection, to be provided by a cost-effective combination of alternate source water, source control, and treatment.

WQ 3.7.1-3

The recommended changes have been made in the WQPP.

3.7.2 Organic Carbon

WQ 3.7.2-1

Any plans for CALFED projects involving water storage on organic soils with the potential for discharge to Delta drinking water supplies will require pilot-scale testing of potential water quality impacts and full mitigation of conditions that would degrade the quality of drinking water supplies taken from the Delta. CALFED staff believe that a full array of water management tools, including new groundwater and surface water storage, needs to be included in the Water Management Strategy. New groundwater and/or surface water storage will be developed and constructed, together with aggressive implementation of water conservation, recycling, and a protective water

transfer market, as appropriate to meet CALFED Program goals. During Stage 1, CALFED will evaluate and determine the appropriate mix of surface water and groundwater storage, identify acceptable projects, and initiate permitting and construction—if program linkages and conditions are satisfied. Due to potentially fewer environmental impacts, groundwater projects potentially could be implemented sooner than surface water storage. The ongoing Integrated Storage Investigation will help to determine the role of a new groundwater and surface water storage in the overall Water Management Strategy.

WQ 3.7.2-2

An improvement in water quality at water supply diversions is one of the goals of the CALFED Program. As noted in the Programmatic EIS/EIR, implementation of the Preferred Program Alternative would improve water quality in the Delta, including at the water supply intakes. The improved flow of good quality water across the Delta from the Sacramento River would be expected to reduce the DOC content of water withdrawn at the intakes. The improvement in DOC content may be supplemented or offset by an alteration in DOC concentration as a consequence of the Ecosystem Restoration Program. (It is not yet known whether conversion of irrigated agriculture to wetlands in the Delta will increase or decrease DOC concentrations.) It is important to note, though, that under the existing conditions, from 20 to 50 percent of the trihalomethane (THM) precursors to Delta waters originate from drainage water from peat soil on Delta islands (Amy, G. L.; Thompson, J. M.; Tan, L.; Davis, M. K.; and Drassner, S. W. 1990. Evaluation of THM Precursor Contribution from Agricultural Drains. *Research and Technology* 82:57-64). Also see response WQ 3.6-2.

WQ 3.7.2-3

(i) See response WQ 3.7.2-2 above.

(ii) Information on the results of inundating peat soil is being developed as quickly as possible. Knowledge is rudimentary, and information is unavailable rather than undisclosed. Recent short-term studies were conducted for the California Urban Water Agencies and the MWQI Program of the DWR (Marvin Jung & Associates. 1999. A Trial Experiment on Studying Short-Term Water Quality Changes in Flooded Peat Soil Environments. Report prepared for the Municipal Water Quality Investigations Participating Agencies and the California Urban Water Agencies. Sacramento, CA). The report indicates that inundation without water exchange during summer increased TOC concentration in the water; however, the seasonal effects and the long-term effects (beyond 10 weeks) have yet to be determined.

3.7.4 Recommendations

WQ 3.7.4-1

CALFED's long-term water quality objectives for drinking water include a TOC concentration of 3.0 mg/L and a bromide level of 50 μ g/L, or an equivalent level of public health protection. The WQPP provides evidence to suggest that the Pacific Ocean is the primary source of bromide and salinity in Delta drinking water supplies, and that the importance of this source is not likely to be greatly affected by CALFED Stage 1 actions. Similarly, the WQPP casts doubt on the feasibility of controlling organic carbon generated within the Delta. However, because significant public health, treatment, technology, and regulatory questions remain unresolved, it is not clear that reducing bromide and salts from the ocean and organic carbon from the Delta is going to prove essential to adequately meet the CALFED goal of protecting public health.

Because we do not yet know what approaches could bring about an equivalent level of public health protection, we cannot make an unequivocal commitment to achieving numerical objectives for drinking water protection.

We are also not able at this time to quantify the cost of failure to attain adequate public health protection, if that should happen, or to quantify the costs that would be involved in protecting public health in other ways. Exploring source water exchanges, advanced treatment technology, or other means of providing an acceptable level of public health protection can be undertaken, however, and are very much within the intended scope of the Water Quality Program.

Stage 1 water quality actions are expected to result in continuously reduced inputs of constituents that adversely affect drinking water supply. A number of the planned CALFED water quality actions will be measurable in terms of reduced loadings of pollutants entering the waters of the Delta estuary, as compared to existing conditions. Whether these improvements will always be measurable at diversion points, or whether they will be sufficient to fully meet the CALFED goal of protecting public health with regard to drinking water supplies taken from the Delta, cannot be known at this time. Even in the absence of quantitative estimates of the effects of these actions on drinking water supply diversions, taking such actions is clearly consistent with the concept of employing source prevention and source control measures as part of a multiple-barrier approach to drinking water protection.

Future water quality needs will be identified based on results of ongoing health effects research and regulatory developments. Adverse impacts of other CALFED actions, such as may result from habitat restoration, will be determined through monitoring and assessment. If these assessments indicate that Stage 1 water quality actions are inadequate to protect public health, or that other CALFED actions are causing negative effects on water quality, additional actions will be taken to protect public health and reduce negative impacts to less-than-significant levels. This approach is consistent with the CALFED adaptive management philosophy. The Delta Drinking Water Council will participate in evaluating CALFED actions and recommending needed changes to the Program on an ongoing basis to ensure that Program goals are met. The CALFED environmental assessment documents have been amended as appropriate to acknowledge that Stage 1 water quality actions, taken by themselves, have limited capacity for improving drinking water quality.

WQ 3.7.4-2

The proposal to recirculate water through the DMC to the San Joaquin River has been considered in the CALFED Program and will continue to receive consideration. Representatives of some CALFED agencies have indicated serious reservations about such a project, in that it could potentially be contrary to state and federal policies and regulations governing water quality degradation. The recirculation proposal can receive additional study and consideration in the implementation phase of the Program, soon to be underway.

WQ 3.7.4-3

The CALFED Program must simultaneously address ecosystem, water supply reliability, levee system integrity, and water quality problems. While facilities would have undoubted advantages for the quality of the water sent to southern California, it is not presently clear that such facilities would produce the best overall solutions to the problems of the Bay-Delta estuary. The Delta Drinking Water Council will be asked to consider the question of salinity targets and to make recommendations to the BDAC and to CALFED management. The deliberations of the Council will also be supported by technical teams composed of drinking water stakeholders and by the work of independent scientists, who will be commissioned as needed to achieve balanced, scientifically supportable perspectives.

CALFED is committed to continuous improvement in the quality of drinking water taken from the Delta through a combined application of source control, alternative sources, and advanced treatment. As a critical element in the solution to the drinking water quality problems of the Delta, upgrading treatment processes is a high priority in the CALFED drinking water quality program, and cooperative participation in bringing about these improvements is within the scope of the program.

The Arcata project is regarded as an excellent example of meeting wastewater treatment and environmental enhancement objectives simultaneously, and may serve as a model for future CALFED activities.

Some commentators have questioned CALFED's willingness to provide up to \$1 million to study non-oceanic sources of bromide, and disagree with giving this work a high priority for implementation. It may be the case that resolving questions on bromide sources would necessitate only minor expenditures, as opposed to the CALFED preliminary estimate. However, in the event that other significant sources of bromide were to be demonstrated, it would be important for available funding to be sufficient to enable thorough evaluation of potential prevention or control measures. While drinking water supplies taken from the Delta may not be significantly improved through bromide control actions directed at non-sea water sources, CALFED recognizes that bromide is a key water quality concern with important implications for the future direction of the CALFED Program. Due to its critical nature, resolving the question of non-ocean sources of bromide with finality and early in the implementation phase of the Program is imperative. The decision to include substantial funding for the effort is justified, even though this amount of funding may not be required to complete the task.

4.2 Problem Statement

Mercury in water and sediment contribute to mercury levels in aquatic organisms, including sport fish. Without intervention, mercury would continue to be transported to the Bay-Delta and would become bioavailable to one degree or another, causing fish consumption advisories. Therefore, the CALFED Program has embarked on a study to determine the mechanisms by which mercury becomes bioavailable. Later CALFED actions would include participation in remedial efforts to reduce the impacts of mercury on the Bay-Delta system. The objective of the measures are to "reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, or human health."

CALFED plays a supportive role in the development of TMDLs. CALFED is not a regulatory agency and does not participate in the regulatory process. CALFED has funded fact-finding research projects to determine sources and causes of pollution problems in the Bay-Delta and some tributaries. CALFED also is addressing environmental "Good Samaritan" issues in the interest of better water quality.

4.4.1 Sources and Transport of Mercury

WQ 4.4.1-1

CALFED has funded a study of mercury loading, bioavailability, and potential to remediate sources. The study centers around the Cache Creek watershed. The investigators for that study have focused on eliminating mercury from mines and geothermal springs because these are thought to be the largest contributors of bioavailable mercury. While many sources of mercury are listed in the WQPP, the mining sources are considered by several mercury experts to be the largest. When given the opportunity to study sources of mercury and mechanisms contributing to bioaccumulation, the researchers decided to concentrate on mines, mining practices, and geothermal vents. A mass balance loading of Bay-Delta mercury will be included in the study. The studies are necessary to determine which sources will provide the most benefit when stopped. The objective of the measures are to “reduce mercury in water and sediment to levels that do not adversely affect aquatic organisms, wildlife, or human health.”

Some actions can be taken prior to completion of the studies. CALFED has proposed to participate in remedial activities within the Delta and along Cache Creek and Clear Lake. Participation in remedial activities on mine sites may be limited to the activities that do not subject the CALFED Program to litigation. No remedial activities on abandoned mine sites should be conducted without federal environmental “Good Samaritan” protection. Without this protection, acting CALFED agencies may become responsible parties for the abandoned sites.

4.4.2 Transformation and Bioavailability of Mercury

WQ 4.4.2-1

The Cache Creek watershed and other watersheds in the Bay-Delta system have contributed mercury in various forms for many years. Without intervention, the mercury would continue to be transported to the Bay-Delta and would become bioavailable to one degree or another. CALFED has initiated a study of the mercury contamination mechanisms and effects from the Cache Creek watershed. Information from the study will be applied to direct remedial efforts in many of the Bay-Delta watersheds. Effects of off-stream gravel mining will be studied insofar as it pertains to the production or sink of methyl mercury to the river and/or Bay-Delta.

WQ 4.4.2-2

It is true that preliminary information from the CALFED-UC Davis Methyl Mercury Study indicates that increased habitat in the north Delta and other areas may contribute to an increase in methyl mercury production. This is based on the assumption that appropriate micro-organisms are present in the constructed wetlands and that mercury-laden water is allowed to reach the wetlands. This conversion of non-bioavailable forms of mercury to methyl mercury, the most bioavailable form, is being studied by another CALFED mercury study. The researchers in the UC Davis Methyl Mercury study are participating in the larger mercury study. Ecosystem Restoration Program staff have been advised of the possibility of increased methyl mercury production and are taking it under advisement.

5. Pesticides

WQ 5.0.0-1

CALFED acknowledges your support for its role in the pesticide issues. This is the role that CALFED strives for each area of involvement.

5.3 Objective

WQ 5.3.0-1

Pesticides are used in agriculture and in urban areas for various types of pest control. Pesticide residue occasionally runs off during storm events or other situations, causing the commingling of pesticide residue and water. Without intervention, pesticides might be abused or misused, causing increased water quality problems—usually toxicity. CALFED has therefore worked with regulatory agencies to address these issues and develop ways of eliminating toxicity caused by pesticide residue. CALFED has been participating in development of management practices to reduce runoff of pesticide residue from agricultural lands and from urban areas. CALFED has also participated in development of hazard assessment criteria. CALFED proposes to investigate environmental effects of pesticides and assist in methods to control pesticide residue runoff.

Reduction of pesticide use does not necessarily correspond to a reduced toxicity in surface waters. This would be true in a case where toxicity is caused by misuse of pesticides rather than appropriate labeled use. CALFED is participating in studies that will help to determine environmental effects of pesticides and mechanisms that cause pesticide toxicity in surface water. CALFED may participate in programs to reduce or eliminate uses of pesticides, provided that reductions in toxicity can be achieved.

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals. CALFED actions in no way usurp the authorities of any regulatory or planning agency.

The Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's Program can add value.

WQ 5.3.0-2

The reader appears to misread the page quoted, page 5.3-4 in the June 1999 Draft Programmatic EIS/EIR impact analysis document. Page 5.3-4 summarizes the potentially significant adverse effects on water quality associated with the Preferred Program Alternative. Because nonpoint source pollutants are largely unregulated and mitigation depends on local voluntary efforts, the expected increase in discharge of nonpoint source pollutants to water bodies that would result from the potential growth induced by the Preferred Program Alternative is likely to be unavoidable. At this programmatic level of planning, it is unknown where the new growth is likely to take place or whether the local nonpoint source discharge can be mitigated. The discussion does not differentiate between nonpoint source discharges in the Sacramento Valley and in export areas.

5.4.3 Predominant Uses of Diazinon and Chlorpyrifos

WQ 5.4.3-1

The suggested change has been made in the WQPP.

5.5 Approach to Solution

WQ 5.5.0-1

Pesticide impacts are determined by many factors, including laboratory studies, field studies, and combinations of the two. Determining the cause of the impact may point to a specific use or an abuse of the pesticide that contributes to the impacts far above other legitimate uses. While reducing regionwide use may reduce impact, reducing abuse or reducing a specific use that is found to contribute to pesticide toxicity may eliminate the impact entirely. CALFED is not opposed to pesticide use reduction. CALFED's objective, however, is pesticide toxicity reduction.

WQ 5.5.0-2

Control of urban uses of the pesticides diazinon and chlorpyrifos is a priority action for the environmental Water Quality Program. Removal of the pesticide from public use will need to be considered by the Department of Pesticide Regulation. It is within their authority to regulate these and other pesticides in this manner.

WQ 5.5.0-3

CALFED is not a regulatory agency and does not seek regulatory authority to implement water quality actions. Therefore, implementing a "regulatory only" Program for pesticide toxicity reduction is not within the CALFED Program's solution principles. Use of regulatory programs for reduction of toxicity within the urban areas may not be feasible. Pesticides are labeled for use by homeowners and are sold in local retail stores. Educational methods are being proposed to control pesticide toxicity of urban drainage. As an alternative to regulatory control, CALFED proposes to add technical support to the actions of regulatory agencies. Additional technical support is intended to add scientific validity to methods of toxicity reduction. This method is intended to target the highest contributors first, as feasibility dictates. By doing so, implementation of less effective measures may not be necessary.

5.5.1 Priority Actions

WQ 5.5.1-1

The suggested change has been made in the WQPP.

6. Organochlorine Pesticides

WQ 6.0.0-1

Chapter 6 in the WQPP has been modified to clarify that this section seeks to prevent pollutants no longer used in California from affecting the environment.

6.4 Approach to Solution

WQ 6.4.0-1

We concur. Winter storm runoff should be included as an area to study for reduction potential of organochlorine (OC) pesticides. This suggestion has been incorporated into Chapter 6 in the WQPP.

6.4.1 Priority Actions

WQ 6.4.1-1

The WQPP does contain a list of stakeholder-recommended actions that might solve portions of individual problems. These are not considered exhaustive lists. Through adaptive management and research, other management tools can be incorporated. Work group activities and the adaptive management process is open to interested parties, to maintain equity among stakeholder interests. Work groups participate by helping to define project priority and appropriateness based on what is known. Implementation of any action in the WQPP is not a foregone conclusion. To receive funds, each project must first receive approval by stakeholder and agency groups.

WQ 6.4.1-2

As a nonregulatory agency, CALFED cannot impose implementation of the use of any management measure. However, financial incentives may encourage its use. Polyacrylamide (PAM) will remain on the list of potential actions to be studied.

WQ 6.4.1-3

The endorsement of increasing channel capacity to prevent OC pesticide input to creeks is noted. Furthermore, the relationship between local flood control and OC pesticide management will be brought to the attention of the workgroup, at such time as it is formed.

WQ 6.4.1-4

The CALFED Program does not support programs that will reduce chemicals beyond what is necessary to eliminate environmental toxicity. Program actions are not intended to reduce crop production at all. In some areas of the Water Quality Program, it is hoped that measures might increase productivity (providing salt removal for agricultural soil, which would increase productivity of salty soils).

The comment opposes CALFED dictating any particular planning solution.

WQ 6.4.1-5

The CALFED Program is not a regulatory program and does not enforce any planning action it might develop through the stakeholder process. The planning activities will be restricted to developing methods in order to minimize water quality parameters that are known to cause particular water quality problems. The main CALFED support is proposed to serve as a process for promoting farm conservation and providing funds for cost

sharing or incentives. CALFED will work with the Natural Resources Conservation Service, as one of the many participating CALFED agencies, in developing research projects and planning efforts to meet CALFED goals.

WQ 6.4.1-6

CALFED will continue to propose such monitoring and research.

6.4.3 Existing Activities

WQ 6.4.3-1

Section 6.4.3 in the WQPP has been revised to include a broader scope of programs. The components of the CURES Program mentioned in the comment are good components and should be supported. CALFED will be initiating a stakeholder/agency workgroup to address pesticide work priorities, including research and pilot projects.

WQ 6.4.3-2

The relationship between local flood control and OC pesticide management will be brought to the attention of the workgroup, at such time as it is formed.

7. Salinity

WQ 7.0-1

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (San Joaquin Valley Drainage Implementation Program [SJVDIP]) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known.

Correction of the salt imbalance in San Joaquin Valley agriculture does require attention. CALFED is proposing research that will lead to some success. At a minimum, this research could be used to determine how much salt can be removed by non-drain methods, thus reducing needs (or size) of a future proposed drain. Salt disposal requires transport out of the valley, long-term in-valley storage, or use of residual salts as a commodity. Currently, the San Joaquin River is the conduit for out-of-valley salt disposal. CALFED is proposing to utilize real-time monitoring of the San Joaquin River to release salt buildup on agricultural land without reducing water quality of the San Joaquin River and Delta. CALFED is also proposing residual use of salt through the integrated on-farm management system. The integrated on-farm management system, and other reverse-osmosis proposals, creates a crystalline salt by-product from used irrigation water and attempts to market the salt for industrial use. These activities will be utilized to their fullest extent in attempts to balance the salt loadings within the San Joaquin Valley. As pointed out, an out-of-valley drain could convey saline water to the Pacific Ocean either directly or through the Bay and Delta. The out-of-valley drain proposal is very controversial, with suspected negative ecological impacts, and therefore is not recommended as a priority action at this time. Through adaptive

management, the CALFED Program could investigate the feasibility of drain alternatives that meet CALFED solution principles of no redirected impacts.

WQ 7.0-2

As a nonregulatory agency, CALFED has not funded establishment and implementation of water quality objectives for the RWQCB. CALFED has assumed a supportive role, providing funding for research that in turn can be used to establish technically based water quality standards. In the case of diazinon and chlorpyrifos, CALFED funded hazard assessment criteria for DFG. These criteria may be used as part of the basis for a water quality objective by a regulatory agency. CALFED is also supporting reductions in salt loading of the San Joaquin River by proposing funding of projects that would eliminate salt from drain water while keeping agricultural land in production. There is still much to work on in this field. Many questions remain unanswered concerning how much can be done with in-valley solutions.

WQ 7.0-3

The Water Quality Program has not questioned the uses of water in areas served by Delta exports. The Water Use Efficiency Program is reviewing water uses and reuses to maximize benefit of water diverted from the Delta. It is correct, as pointed out by the comment, that a permanent fix to the salinity issues in the San Joaquin River has not been identified and approved. Many parties believe that an out-of-valley drain is appropriate and environmentally safe. However, there is much controversy over the applicability of a drain. The CALFED Program has therefore proposed some other activities that would promote water conservation while reducing salt buildup in irrigated soils. These projects have not been in existence for long periods of time and are not yet considered fully sustainable. Studies are continuing to determine potential solutions to salt buildup in soils while maintaining environmental stewardship and irrigation efficiency. It is hoped that methods developed in the San Joaquin Valley also will be applicable to the Imperial Valley.

WQ 7.0-4

It is true that agricultural drain water is recycled. Salt from irrigating farmland in parts of the San Joaquin Valley combines with salt from other sources and affects the San Joaquin River. CALFED has proposed projects to eliminate some of the agricultural drain water from the system in order to reduce salinity in the San Joaquin River. Additionally, CALFED is proposing to reduce constituents that contribute to the low DO conditions in the San Joaquin River near the City of Stockton. Elimination of some of these constituents might also improve drinking water quality.

7.1 Summary

WQ 7.1-1

Many factors affect the salinity of water diverted from the Delta, including droughts and wet years, seasonal changes associated with annual climate changes, tidal effects, and agricultural irrigation practices. Such variability is inherent in a complex estuarine system such as the Bay-Delta. However, the Preferred Program Alternative is predicted to lower the salinity of export waters on average and, although variability may continue to be high, the range of concentrations is predicted to be lower.

WQ 7.1-2

Tables 5.2-9 and 5.2-10 in the Programmatic EIS/EIR impact analysis document show how the 2 parts per thousand isohaline is predicted to change under the various alternatives.

WQ 7.1-3

Many factors affect the salinity in the Delta in addition to the width of the sloughs. These factors include the flow rates of the rivers, circulation patterns within the Delta, and the magnitude and location of sources of salts. Model predictions of how salinity may change under the various alternatives are provided in tables in Section 5.3 in the Programmatic EIS/EIR.

WQ 7.1-4

Please see common response 16.

WQ 7.1-5

Salinity loading from the San Joaquin River is emphasized because the San Joaquin River contributes to marked elevation of Delta salinity levels that adversely affect beneficial uses of Delta waters. The scope of the WQPP does, however, encompass source prevention and control actions directed at Delta and Sacramento River sources of salts. Salt management of wastewater treatment plant discharges and timing of agricultural discharges are examples of salt management actions envisioned as elements of the WQPP that may be applicable to the Sacramento River and Delta. Detailed planning for and prioritization of such actions will evolve as the Program reaches its implementation phase and will be accomplished with stakeholder involvement. Also see response WQ 3.6.1-4.

WQ 7.1-6

These sections of Chapter 7, "Salinity," were intended to state how much work has gone on before the CALFED Program, with an emphasis on the fact that much has been attempted without large-scale success. CALFED is committed to retiring the minimum acreage necessary in order to accomplish the selenium objectives by cooperating in the successful implementation of other options. Land retirement will be implemented on a voluntary, compensated basis with due regard to impacts on local communities and economies. Therefore, land retirement is considered a final option. In the months since this chapter was written, progress has been made in both integrated on-farm management and reverse-osmosis treatment. Salt disposal or reuse remains an issue that needs attention. There is no indication at this point whether these "treatment" measures will amount to what is needed to meet in-stream salinity standards from regulatory agencies. CALFED is committed to research and pilot projects in order to determine what degree of success is feasible without land retirement or an out-of-valley drain.

7.3 Objective

WQ 7.3.1-1

To state that CALFED is not willing at this time to invest in an out-of-valley drain as it has been proposed, but is willing to invest in other solutions, does not indicate that CALFED is counter productive. The track CALFED stakeholders (and Policy Group) have decided to take will lead to some success in reducing salinity in the San Joaquin River and in the soils of Central Valley farms. These expected results are similar to the goals of the agricultural community who have participated in the CALFED process. The CALFED actions are expected to achieve some success, not the least of which will be to determine how much salt can be removed by non-drain

methods, thus reducing needs (or size) of a proposed drain. This area likely will require many simultaneous solutions; working on all but one solution leaves some room for others to also contribute where individual governing bodies dictate.

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified.

WQ 7.3.1-2

The actions proposed in the WQPP are not all of the actions proposed by CALFED to reduce salinity. The drinking water quality improvement strategy in the Phase II Report outlines a general strategy for improvement that includes salinity reduction. The activities from the drinking water quality program and the actions from the ecosystem water quality program should result in overall reductions of salt, which should improve the utility of the San Joaquin River water and the Delta water. The Delta Drinking Water Council will examine the results of efforts and will identify additional measures to further protect drinking water uses of the water.

7.4 Problem Description

WQ 7.4-1

Stakeholders have recommended establishment of intermediate water quality milestones for salinity in water diverted from the Delta. Values of 220 mg/L and 150 mg/L TDS have been recommended as salinity targets. The CALFED Program must simultaneously address ecosystem, water supply reliability, levee system integrity, and water quality problems. While facilities undoubtedly would have advantages for the quality of drinking water supplies taken from the Delta, it is not presently clear that such facilities would produce the best overall solutions to the problems of the Bay-Delta estuary. The Delta Drinking Water Council will be asked to consider the question of salinity targets and to make recommendations to the BDAC and CALFED management. The deliberations of the Council will also be supported by technical teams composed of drinking water stakeholders and by the work of independent scientists who will be commissioned as needed to achieve balanced, scientifically supportable perspectives. Potential impacts of failure to provide adequate water quality are not assessed, as it is not presently known what level of source water quality will be required to meet the CALFED objective of providing protection of public health in drinking water supplies taken from the Delta, when source water quality improvements, alternate sources, and treatment are combined to address drinking water concerns.

7.4.1 Lower San Joaquin River Basin Salt Balance

WQ 7.4.1-1

The impact analysis section in the June 1999 Draft Programmatic EIS/EIR states the following on page 5.3-17:

Data reported by Grober (1999) at the CVRWQCB [Central Valley Regional Water Quality Control Board] indicate that concentrations in the San Joaquin River at Vernalis, expressed in terms of specific conductance or umhos/centimeter [cm] exceeded the 700 umhos/cm 30-day running average objective for April through August in about 54 percent of the time from 1986 to 1997. These concentrations exceed desirable levels for agricultural irrigation and cause problems for south Delta farmers and for export water.

While this characterization does not include the assertions made by the commentor, it does describe the salinity impairment of the San Joaquin River.

7.4.3 Sources

WQ 7.4.3-1

The WQPP recognizes that some water use efficiency measures are capable of increasing concentrations of salts as a result of decreased water use, while some water use efficiency activities reduce pollutant loads and improve water quality. Whether the effects of water use efficiency actions are beneficial to water quality will need to be analyzed on a case-by-case basis. At the current programmatic level of detail, specific water use efficiency projects have not been identified that would make it possible to analyze their potential impacts on the quality of receiving waters. As projects are developed during the implementation phase of the CALFED Program, salinity and other environmental impacts will be identified and documented, and provisions will be made for mitigation where appropriate as a condition of project implementation. Potential mitigation measures might include treatment to remove salt or avoidance of circumstances that would cause salinity increases. CALFED is committed to avoid significant salinity increases in the Delta estuary and its tributaries resulting from its actions.

WQ 7.4.3-2

CALFED hopes to support development of the same types of practices.

7.5 Approach to Solution

WQ 7.5-1

According to modeling projections conducted by DWR, the Preferred Program Alternative does result in significant reductions in salt concentrations at the diversion facilities for the SWP. (See Tables 5.3.4-a and 5.3.4-b in the Programmatic EIS/EIR.) The TOC changes associated with the Preferred Program Alternative have not been evaluated quantitatively. Section 3.7.3 in the WQPP points out that organic carbon “might be subject to control by drainage treatment if the technology can be proven and if it can be made economically feasible.” Source identification of TOC and pilot testing of treatment methods on agricultural drains from Delta islands is an early implementation action (see Table 3 on page 12-18 in the June 1999 WQPP).

WQ 7.5.0-3

Salinity and selenium have been concerns in the San Joaquin River for many years. Without intervention, the salinity problem might cause agricultural land to be unproductive or might warrant land retirement under this and other programs. Rises in salinity in the river and Delta threaten ecosystem stability and irrigation exports from these areas. CALFED is proposing innovative solutions to remove salt from supply water and drain water. It is proposed that solutions be sustainable projects, that is, that they lead to long-term productivity of the land. Suggestions such as integrated on-farm management, which was developed through other salinity management

programs, will be studied further to determine whether they are entirely sustainable. Land retirement for salinity (and selenium) control through the CALFED Program is considered a final option. Increasing the water quality in the San Joaquin River will also benefit wildlife and water users in the Delta. Costs for such activities will initially be shared by various agencies and farm owners. CALFED staff is seeking funding for larger implementation at cost-effective rates.

7.5.1 Local Actions

WQ 7.5.1-1

The recommended changes have been made in the WQPP.

WQ 7.5.1-2

While the WQPP mentions a maximum of 37,400 acres of land that might be retired under this program (as a last-ditch effort), there is no effort to retire 25 percent of the approximately 7 million acres of irrigated farmland in the San Joaquin Valley. In so far as the RWQCB needs to adopt a salinity objective in the San Joaquin River, and CALFED participates in the scientific research that leads to a justifiable objective, it does not mean that CALFED is exerting any regulatory hammer. Most of the CALFED actions center around activities that promote on-farm solutions. Furthermore, the CALFED Salinity/Selenium Workgroup has stated that it wishes to promote only those projects that are sustainable. In summary, CALFED will participate in the scientific process of setting an objective, as it will in other water quality areas. CALFED also will research methods to reduce pollutant levels in discharges of concern. In addition, CALFED is researching other solutions that are more regional and do not involve individual businesses. All of this work should not be construed as promoting a regulatory hammer or eliminating millions of acres of farmland.

WQ 7.5.1-3

It is correct that formal economic feasibility has not been determined for these actions. These actions are still an area that can be studied to determine economic and technical feasibility, as well as whether the actions are sustainable. Technical feasibility includes demonstration that the project removes and disposes of salt while protecting water resources and wildlife. Disposal of salt includes potential marketing as well as in-valley and out-of-valley disposal. CALFED proposes to fund research in all of these areas to determine what is feasible.

WQ 7.5.1-4

The integrated on-farm management actions were developed by representatives of the California Department of Food and Agriculture, UC Davis, and a farmer in the Westlands area. In the beginning project, a farmer was able to reclaim marginal farmland and has not discharged salt to landfills or the river. The study of whether this is a truly sustainable project has not been conducted; however, interim studies have proven some effectiveness. Recently, interest in the process has increased. As many as six other facilities are in various stages of planning to use this method to maintain or increase productivity of their farmland. The CALFED Salinity/Selenium Workgroup has contacts for the commentor's edification.

WQ 7.5.1-5

The contradiction mentioned does arise when drainage is left unchecked. Irrigation reduction may reduce overall salt discharge, but drainage reduction with higher salt concentrations may not. However, drainage reduction coupled with real-time discharges can reduce impacts of salts discharged in the return water. Drainage reduction

can also be conducted by methods that remove salt from the system. It is agreed that sometimes the removal of salts is limited to increased salt levels in soils, which will eventually destroy the utility of the cropland. Therefore, this method may not be selected by the CALFED Salinity/Selenium Workgroup, which has decided to seek projects that are sustainable.

7.5.2 Basinwide Actions

WQ 7.5.2-1

CALFED will support monitoring studies of the San Joaquin River watershed and will support development and implementation of a comprehensive plan for improving the quality of the San Joaquin River. The SJVDIP is the entity bearing primary responsibility for this work. CALFED staff have worked closely with the SJVDIP in the realization that salt and selenium management in the San Joaquin Valley has important effects on the Bay-Delta estuary. This close-working relationship will continue, as will CALFED's technical and financial assistance to the SJVDIP. CALFED will support actions that enable water quality objectives to be met at Vernalis while respecting area of origin and watershed protection laws.

WQ 7.5.2-2

Salinity is an important determinant of the feasibility of wastewater recycling and groundwater conjunctive use as elements of a broad-spectrum water management approach to resolving the water supply problems associated with the Delta estuary. This is especially true for southern California, where the relatively high cost of fresh water supply makes recycling and conjunctive use projects attractive as alternatives. The Delta Drinking Water Council that is being formed by CALFED is charged to evaluate and recommend needed intermediate and long-term water quality targets. The Council will be asked to consider the need for a salinity target to increase water management options, particularly in southern California. The Council will also be asked to consider the need for other actions designed to reduce salinity in water supplies diverted from the Delta. The CALFED Program is not expected to cause an overall increase in the salinity of water diverted from the Delta and should not, therefore, cause negative impacts on groundwater quality that would require mitigation. If other measures prove inadequate, the scope of the Program allows for consideration of facilities to improve water quality.

WQ 7.5.2-3

CALFED supports development of a comprehensive program to control salinity in the San Joaquin River, in cooperation with the CVRWQCB and the SJVDIP. While the CALFED Program is intended to reduce conflicts among beneficial uses of the waters of the Bay-Delta estuary, it has been acknowledged from the outset that not all problems associated with water supply, water quality, and water management in California can be solved through the CALFED Program. The CALFED Program will help to mitigate the impacts of the SWP and CVP but may not reduce all such impacts to less-than-significant levels.

WQ 7.5.2-4

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals.

The Water Quality Program calls for implementation of a range of tools by participating agencies and interested parties to accomplish its goals. These tools include, but are not limited to, voluntary efforts, use of economic incentives, and exercising regulatory authority by appropriate agencies. The appropriate mix of tools will vary, depending on the problem, existing activities, and where CALFED's Program can add value.

WQ 7.5.2-5

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the Valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified.

Salt disposal requires transport out of the valley, long-term in-valley storage, or use of residual salts as a commodity. Currently, the San Joaquin River is the conduit for out-of-valley salt disposal. CALFED is proposing to use real-time monitoring of the San Joaquin River to release salt buildup on agricultural land without reducing water quality of the San Joaquin River and Delta. CALFED is also proposing residual use of salt through the integrated on-farm management system. The integrated on-farm management system creates a crystalline salt by-product from used irrigation water and attempts to market the salt for industrial use. These activities will be used to their fullest extent in attempts to balance the salt loadings within the San Joaquin Valley. As pointed out, an out-of-valley drain could convey saline water to the Pacific Ocean either directly or through the Bay and Delta. The out-of-valley drain proposal is very controversial, with suspected negative ecological impacts, and therefore is not recommended as a priority action.

WQ 7.5.2-6

CALFED is not in a position to offer assurances for the correction of the salinity problem in the San Joaquin Valley. The problem is vast, and the solution will likely be complicated and costly. CALFED is committed to working with the RWQCB to help develop tools necessary to meet the TMDLs that the Board will consider. CALFED has funded other monitoring efforts and will likely fund salinity monitoring efforts as well. CALFED also proposes to conduct projects that will eliminate some salt discharges to the San Joaquin River while maintaining agricultural productivity.

WQ 7.5.2-7

CALFED staff has been working with major water contractors to determine costs of salinity treatment for both drinking water and agriculture. Salt affects both irrigation water and drinking water. Treatment technology and costs will be considered in the development of solutions for individual areas.

The recommended change has been incorporated into the WQPP.

CALFED is working with irrigation districts, drainage districts, the RWQCB, environmental groups, and other interested parties to address agricultural drainage. Salt removal, selenium removal, oxygen-depleting compounds, and pesticide toxicity control are key areas of our efforts. In many cases, the effort focuses on preventing contaminants from reaching the river. The effort is an attempt to balance needs of the ecosystem while protecting the agricultural economy of California's Central Valley.

At the time of writing the June 1999 Draft Programmatic EIS/EIR, the concept of an out-of-valley drain to off-shore disposal was not actively discussed, at least not among the contributors to the document. To date, there are no known studies of this type of proposal to determine its feasibility. It has been CALFED's position to first support the in-valley solutions. The original concepts of the out-of-valley drains proved controversial and are suspected to result in negative environmental impacts. Through adaptive management, CALFED may consider less controversial drain options with no negative environmental impacts. This topic is still beyond the scope of this Programmatic EIS/EIR for lack of information. It should be mentioned that other solutions for salinity and other problems also are not addressed in the Programmatic EIS/EIR for lack of information.

CALFED has formed a stakeholder and agency workgroup for salinity/selenium issues. That workgroup is relatively new and has decided on one principle: to work on projects that are sustainable. This decision reflects the desire to seek durable solutions that will protect Central Valley farmland while reducing salinity of San Joaquin River water. Members of the work group have also expressed interest in out-of-valley drainage. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified. The Salinity/Selenium Workgroup is charged with determining individual projects that will meet CALFED salinity/selenium objectives. Determination of this sort requires prioritization of project actions, development of new project alternatives (including research and pilot projects), and environmental documentation. Such environmental documentation will include feasibility of the project. If many project actions are proposed at the same time, or evaluated at the same time, a comparison and discussion of linkages will be included. It is possible that many of the proposed actions mentioned in the WQPP will not meet the qualification of being sustainable and will therefore not be reviewed further.

Real-time management of salinity in the San Joaquin River will provide some benefit to removing salt from drainage areas in the San Joaquin Valley. It will not provide any benefit to undrained areas such as Westlands Water District and the Tulare Lake basin. Real-time management is not expected to meet all of the salt disposal needs of the drainage areas. Other salt disposal options will likely need to be used in order to meet San Joaquin River salinity objectives. Real-time management may also incorporate monitoring that may lead to salt disposal restrictions during times not currently regulated. Such management may require additional structures to store

water in advance of being able to discharge. CALFED is proposing to fund some initial work towards real-time monitoring in early implementation.

WQ 7.5.2-13

The reference has been changed to “Chapter 5.3 in the impact analysis of this Programmatic EIS/EIR contains data on the water quality of supply water from the Delta.” Other references to yet unreleased reports and studies have been deleted.

WQ 7.5.2-14

The information needed in the area of real-time management is noted in the bulleted section—namely, multifunction water quality analyzers; a data quality assurance system; flow and quality control systems; and an institution to coordinate among regulatory, operators, and other entities.

WQ 7.5.2-15

CALFED is considering the construction and use of barriers to help maintain static water levels in parts of the Delta. The use of the barriers and other in-Delta modifications (as well as operational changes) may promote the export of fresh waters, thus preventing some of the recycling that occurs now. These changes, coupled with removal of salt from drain waters, will promote longevity of San Joaquin Valley agriculture. Further steps in these directions would enhance the longevity of agricultural production in the valley. No studies have been completed to specify whether each individual method is feasible or effective.

WQ 7.5.2-16

Solution approaches in the Water Quality Program do not specifically address this portion of the river. However, for pollutants or water quality conditions with a portion of their origin in the aforementioned portion of the watershed, control measures and studies will be proposed. CALFED does not assume any authority or jurisdiction over any state or federal agency that is conducting work on the San Joaquin River. The role of CALFED is to supplement the efforts of other agencies, to bring about a technically sound solution in a timely manner.

WQ 7.5.2-17

In Chapter 7 in the WQPP, a few projects include water treatment and recycling. To develop regionwide recycling and treatment, infrastructure needs to be in place for collection of the drainage water. In some instances, CALFED is proposing treatment of drainage water to remove salts; the water then is recycled in irrigation canals. In areas where infrastructure is not available, on-farm systems work well. CALFED proposes to investigate and possibly promote integrated on-farm management, which collects drain water within a farm’s boundary, reuses the water on successively more salt-tolerant crops, and finishes with solar evaporation and harvesting of salt crystals.

WQ 7.5.2-18

Although the project you support is likely to be viable, a project-specific initial study and environmental document must be completed prior to implementation. This EIS/EIR is programmatic and therefore does not contain sufficient documentation to implement site-specific projects. In the case of recirculation of diversion water, the CALFED water management program proposes to assess costs and benefits of such a project.

The “CALFED program” referred to in the statement is the real-time water quality management program. As explained in the section discussing “Real-Time Management,” the goal of real-time water quality management is to make multiple use of water that is already being stored or released for other purposes. For example, releases currently are being made from tributaries to the San Joaquin River for the explicit purpose of providing pulse/attraction flows for fish; releases also are being made from New Melones Reservoir for the explicit purpose of providing dilution flows to meet water quality objectives at Vernalis (in accordance with SWRCB Water Rights Decision-1422). Coordination of existing reservoir releases for fish flows with existing discharges of salt can result in reducing overall reservoir releases needed explicitly to provide dilution flows. Should dilution flows cease, the real-time management would use the assimilative capacity of the San Joaquin River to meet salinity discharge needs without exceeding salinity criteria.

7.5.3 Evaluation of Other Sources of Salinity

WQ 7.5.3-1

CALFED supports completion by the CVRWQCB of the Basin Plan Amendment for salinity and boron. CALFED will encourage and, as appropriate, consider supporting the effort toward timely completion.

WQ 7.5.3-2

CALFED analyses have demonstrated that there are multiple sources of salinity in the Delta, and their interactions are complex. Similarly, the salinity of Delta waters can be affected by a range of actions, including operational changes on the part of the users of Delta waters, controlling discharges from land surfaces, and addressing problems with salt accumulation in the San Joaquin Valley. Since its inception, CALFED has intensively studied these problems and potential solutions, and will continue to do so as the Program evolves. The operational scenarios studied by CALFED have assumed various caps on diversions through the pumps, and the salinity effects of these operational scenarios have been quantified. Results of these analyses are used in the Programmatic EIS/EIR impact analysis.

8.2 Problem Statement

WQ 8.2-1

The Grassland Bypass Project has been a successful cooperative project, involving willing landowners who are committed to reducing salt, boron, and selenium concentrations in the San Joaquin River through intensive water management and water use efficiency actions. The June 1999 WQPP identifies the Grassland Bypass Project (on page 8-11) as the kind of cooperative effort that CALFED should support. We have added more information about this successful effort in the WQPP.

8.4.1 Sources

WQ 8.4.1-1

The San Joaquin Valley produces more agricultural products than the state of Texas. This is made possible, in part, by irrigation water brought in from the Bay-Delta. Loss of this farmland would significantly reduce California’s economy. Selenium sources of the San Joaquin Valley come primarily from the Western Hills (the Coast Ranges). Other sources of selenium in the Bay-Delta include refineries. Salt concentrations in the San

Joaquin Valley are caused by imported water and various salts added to the water through use, such as water softener regeneration, fertilizer use, municipal wastewater salt, and other industrial salts. Sediment comes from agriculture, construction, and erosion.

8.5.1 Agricultural Sources

WQ 8.5.1-1

The question of whether the scope of the CALFED Program should include a solution to the problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified. Other methods described in the WQPP lack completed research necessary for widespread implementation. Certainly, the feasibility of isolating selenium for production requires considerable additional study but may pay dividends if determined feasible.

WQ 8.5.1-2

Land retirement for controlling selenium discharges into the San Joaquin Valley is contemplated through the CALFED Program as one of a suite of actions designed to address this problem. Retirement will be undertaken only where less extreme alternatives fail, and only to the extent that landowners are willing to participate in such a program. The CALFED objective is for lands to remain under private ownership and control. CALFED will pursue this approach until it is conclusively demonstrated that retirement is necessary, and that land retirement will be successful and cost effective in controlling the problem. Ideally, land retirement will not be needed for selenium control. Because insufficient information is available on what specific areas could be affected by such a program, any attempt to define the types of land to be retired or types of crops currently grown would be speculative and unsupportable. The CALFED Programmatic EIS/EIR is a programmatic document that is intended only to establish a broad overall framework for a comprehensive suite of actions that must be studied and documented in detail prior to their implementation. Identifying land retirement as one of a number of potential approaches to resolving selenium problems is a commitment only to further study, not to proceeding with implementation.

8.5.2 Refineries

WQ 8.5.2-1

Prior to use of any treatment method, site-specific environmental documentation must be completed. Protecting wildlife in wetland treatment systems is a noted concern.

WQ 8.5.2-2

CALFED will be working on supporting efforts to reduce selenium from refineries. It is important to note that selenium in the San Joaquin River and other water bodies should not be allowed at levels that could affect the environment. The question of whether the scope of the CALFED Program should include a solution to the

problem of salt accumulation in the San Joaquin Valley was considered at length during the scoping period of the Program. Because an existing program (SJVDIP) has primary responsibility for addressing the drainage problems of the valley, it was decided that CALFED would act in a supporting role to the SJVDIP. CALFED would provide funding and other support as appropriate to the primary CALFED mission of reducing conflict in the system by improving ecosystem functions, providing good water quality for all beneficial uses, increasing water supply reliability, and improving levee system integrity. State, federal, and local agencies are actively conducting an environmental evaluation of a drain alternative. CALFED has chosen to defer inclusion of a drain alternative until the outcome of the environmental study is known and a drain alternative that meets CALFED solution principles of no redirected impacts is identified.

10.4 Problem Description

WQ 10.4.0-1

Turbidity is considered detrimental to fish habitat. Spawning areas for anadromous fish extends well into the watershed. Consequently, CALFED does address sedimentation and erosion in many areas within our geographic scope. It is acknowledged that the water quality section is not the appropriate place to address sedimentation in the upper watershed or where no Bay-Delta ecological impacts are noted. Instead, sedimentation in upper watershed areas will be addressed in overall watershed restoration within CALFED and other efforts. The proposal of turbidity reduction activities without a nexus to the Bay-Delta has been removed from the WQPP. Discussions of sedimentation that impairs habitat connected to the Bay-Delta will be retained in the WQPP. Integration with the Ecosystem Restoration Program will be sought to ensure proper treatment of any suspected nexus.

10.5 Approach to Solution

WQ 10.5.0-1

Activities in many of the CALFED Program elements overlap. The CALFED scope was originally set very wide because of the interaction of the different Program elements. The ecosystem water quality program integrates with the other common programs and has active integration efforts with the Watershed, Levee System Integrity, drinking water quality, and Water Use Efficiency Programs.

10.5.1 Priority Actions

WQ 10.5.1-1

Sedimentation of fisheries breeding habitat reduces the quality of the breeding grounds and therefore detracts from other efforts to preserve or restore these habitats. Proposed best management practices (BMPs) to reduce sedimentation will be implemented in areas with direct effects on these specific types of habitat. It is envisioned that BMPs first will be implemented on a voluntary basis. The extent of the problem may require additional incentives to implement BMPs. Regulatory measures would be employed by regulatory agencies if progress is not sufficient through other methods. Incentives to employ BMPs may include cost sharing.

10.5.2 Information Needed

WQ 10.5.2-1

The discussion of turbidity without a nexus to the Bay-Delta has been removed from the WQPP. If a discussion of floodplain management is retained, it will contain the need to study impacts, costs, and benefits of the proposal. Studies of floodplain management will need to be conducted along with flood control methodology discussed in Chapter 6, "Organochlorine Pesticides." CALFED is not a regulatory agency and does not impose any BMPs through regulations. The CALFED role complements the respective roles for regulatory and planning agencies involved in the same areas of water quality.

11. Toxicity of Unknown Origin

WQ 11.0.0-1

The support and encouragement is acknowledged. CALFED will maintain a working relationship with pesticide manufacturers as well as user groups, regulatory agencies, environmental groups, and other industries that might be responsible for toxicity of unknown origin, such as non-pesticide toxicity.

11.3 Objective

WQ- 11.3.0-1

Toxic material removed from water, or prevented from entering water, would no longer be toxic to aquatic organisms. These substances may not be toxic to terrestrial animals if contained on land. In some cases, such as for pesticides, preventing pesticides from entering waterways would both increase the effectiveness of the pesticide and protect aquatic organisms. Most pesticides are designed to be neutralized after a short time. Other toxic materials such as copper should not pose a significant threat to terrestrial animals, including humans. Prior to initiating any solution, the appropriate environmental documents must be completed to comply with environmental regulations.

12. Implementation Strategy

WQ 12.0-1

The Water Quality Program will reduce the discharge of contaminants to waterways in the Sacramento and San Joaquin River watersheds, which will reduce the concentration of contaminants at the drinking water pumps. An improvement at the pumps will result in an improvement at the tap. To provide safe water at the consumer's tap, water agencies obtain source water of varying quality and then treat it as necessary to meet drinking water standards. Because the Delta is not a pristine source, water drawn from the Delta is currently treated, and will always need to be treated, before it is supplied to consumers. The value of the Water Quality Program is that the program may reduce the mass of contaminants that must be removed at the treatment plant.

WQ 12.0-2

Please see common response 14.

WQ 12.0-3

Please see common responses 5 and 14.

WQ 12.0-4

Please see common response 9.

WQ 12.0-5

Source control is a key element in CALFED's water quality improvement strategy. Specific pollution prevention actions can be found in Table 3 ("Early Implementation Actions") and Table 4 ("Stage 1 Actions") in the June 1999 WQPP. CALFED plans to conduct pilot studies for integrated on-farm management of selenium in order to develop and implement better source control management measures (paragraph 2 on page 12-5 in the June 1999 WQPP). Tables 3 and 4 have been removed from the WQPP; however, similar information is found in the Implementation Plan.

WQ 12.0-6

Please see common responses 2 and 4.

WQ 12.0-7

Please see common response 14.

WQ 12.0-8

Please see common response 2.

WQ 12.0-9

Please see common response 2.

WQ 12.0-10

Studies, research, and incentives for implementation of water quality actions directed toward a water quality agency would augment that agency's effectiveness in developing the appropriate levels of protection or methods by which reduction can be made in the most cost-effective manner. Directed actions are intended to support work already in progress. CALFED agencies participate in the CALFED consortium, understanding that CALFED has no authority to direct an agency or private party. In the case of low DO, CALFED is supporting work initiated by the RWQCB; in effect, the CALFED Program is protecting industrial interests by supporting good science and tool development.

WQ 12.0-11

Figures 15 and 16 in Chapter 12 in the WQPP were flow paths of studies and actions, not decision trees. The path is as follows: after a project action has been included in the programmatic environmental document and that document is adopted, the action is either grouped as a study or a physical process. Studies are further grouped by types of solutions. Results of the study parameters or study results are directed to expert panels. If the studies lead

to physical processes, such as source control, those processes may need to be documented in a supplemental programmatic environmental document, if the process is not already included. Once included in a programmatic environmental document, actions are grouped by type. Before actions can be implemented, project-specific environmental documentation must be provided. These figures have been removed from the WQPP; however, similar information is contained in the Implementation Plan.

12.1 Introduction

WQ 12.1-1

CALFED effort will be devoted to achieving the most improvement in water quality at the least environmental cost. Affordability is a key CALFED solution principle that must also be met. CALFED intends to develop partnerships with farmers to make needed improvements in order to reduce conflict in the Bay-Delta system without causing significant redirected impacts. CALFED funding assistance is an important means by which redirected impacts are to be avoided.

12.3 Principles

WQ 12.3-1

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. One primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals.

Such support will benefit the regulatory and regulated communities alike. The objective is to improve water quality with minimal economic impact on industry. Without CALFED support, development of remedial methods would be the responsibility of the regulated community, and objectives would be based on information available to the regulatory agencies in the time allowed.

WQ 12.3-2

CALFED is a cooperative, inter-agency effort involving many state and federal agencies with management or regulatory responsibilities for the Bay-Delta. Each participating agency bears its respective authorities and responsibilities, independent of CALFED efforts. A primary purpose of CALFED is to facilitate the collaborative and cooperative use of these authorities and responsibilities, as well as CALFED resources, to better address the range of problems facing the Bay-Delta.

CALFED does not possess independent, regulatory authority over water quality. However, CALFED does recognize the need for participating agencies to exercise their responsibilities with regard to water quality. CALFED will work with all entities in support of achieving its water quality goals. CALFED acknowledges the primacy of existing water quality agencies and does not seek to impose any new tier of governance.

WQ 12.3-3

Peer review and adaptive management described by the WQPP is intended to address the science behind the most effective ways to solve individual water quality problems within the CALFED solution area. CALFED acknowledges the primacy of existing water quality agencies and does not seek to impose any new tier of governance, by review of regulatory methods or any other regulatory work.

WQ 12.3.0-4

Targets developed by the Water Quality Technical Group are for the use of prioritizing CALFED projects and have no influence on regulatory water quality levels. Regulatory water quality levels are developed under specific methodology to ensure proper levels of regulation.

WQ 12.3-4

As a nonregulatory entity, CALFED has no authority to impose its water quality targets as mandatory standards or to enforce any such standards, although some of its constituent agencies do have regulatory authority. Water quality regulations are formulated through processes that are external to the CALFED process. CALFED's practice is to adopt as its objectives appropriate standards as they are established by the regulatory agencies. The TMDL process, involving the EPA, and the SWRCB and the RWQCBs, is an example of a separate regulatory activity that can influence CALFED Program objectives. CALFED recommends that interested parties become involved with these regulatory processes, as public involvement is incorporated into these processes.

Under the authority of the SWRCB and the RWQCBs, waters of the state are not to be degraded, except where avoidance of such degradation is not in the best interest of the public. Under the SWRCB and RWQCBs monitoring of waste discharges is established (for permitted dischargers). Monitoring is intended to reflect the quantity and quality of the discharge. In the event that grab sampling cannot produce this assurance, composite (or continuous) samplers are employed. Through such sampling, regulatory agencies, such as the RWQCB, determine compliance for TMDL implementation programs. All of these activities will remain at the regulatory agency level and will not directly involve CALFED. CALFED maintains a supportive role in producing technically justifiable TMDLs and monitoring of ambient water to determine ecological suitability.

WQ 12.3-5

CALFED is committed to fulfilling its goal of providing good quality water for all beneficial uses. As applied to drinking water, the long-term water quality objectives are for a TOC concentration of 3.0 mg/L and a bromide level of 50 µg/L, or an equivalent level of public health protection to be provided by a cost-effective combination of alternate source water, source control, and treatment. Although no specific salinity objectives have been developed to support agricultural and urban uses, stakeholders have recommended salinity targets of 220 mg/L and 150 mg/L TDS to support agricultural uses and to enhance opportunities for wastewater recycling and groundwater conjunctive use. In fulfilling its commitment, CALFED is obligated to abide by its solution principles, including the principles that the solutions must be implementable and affordable; therefore, CALFED is inherently committed to assuring the technical feasibility and cost effectiveness of its actions.

12.4 Early Implementation Actions

WQ 12.4-1

The discrepancies have been reconciled.

12.5 Stage 1 Actions

WQ 12.5-1

The source control actions planned for Stage 1 will certainly reduce inputs of pollutants into Delta waters and will result in continual improvement in the quality of these waters as the actions proceed, as compared to the situation that would exist in the absence of the Program. Through Stage 1 and Phase I of Program implementation, CALFED will proceed toward achieving its drinking water quality objectives. CALFED ecosystem restoration actions may have the potential for degrading water quality, at least over the near term. The pilot testing, and monitoring and assessment that will accompany each of these actions will determine whether any negative water quality impacts are occurring. If this should prove to be the case, mitigation measures will be implemented to reduce the impact to a less-than-significant level. Potential mitigation measures might include actions such as impounding water to reduce impacts of turbidity and treating discharges to remove metals, organic carbon, or other undesirable constituents. Impacts of increasing population will indeed present water quality challenges, with or without the CALFED Program. Increasing urbanization will result in greater volumes of urban stormwater discharges into the Bay-Delta estuary system, increased discharges of treated wastewater, increased airborne sources of water quality degradation, and increased likelihood of accidental spills of toxic materials into the waterways of the estuary. The CALFED Program will be involved in planning for development projects and will make recommendations for source prevention, source control, and treatment of these discharges as appropriate. While the CALFED Program is intended to reduce conflicts among beneficial uses of the waters of the Bay-Delta estuary, it has been acknowledged from the outset that not all problems associated with water supply, water quality and water management in California can be solved through the CALFED Program. The Program can, however, exert leadership toward the goal of optimum management of the state's water resources.

WQ 12.5-2

The Programmatic EIS/EIR is intended to establish an overall framework within which detailed project planning and implementation will go forward. It is therefore appropriate and necessary that detail is lacking from the programmatic document. CALFED is committed to the principle of continuous improvement in the water quality of the Bay-Delta estuary until these waters are of good quality to support all beneficial uses, including drinking water supply. CALFED is also committed to ongoing stakeholder involvement in planning and implementing effective water quality improvement actions. CALFED has recently formed a Delta Drinking Water Council comprised of interested stakeholders, including suppliers of drinking water taken from the Delta. The Council, supported by a committee of stakeholder technical experts and by independent scientists as needed, will advise CALFED management on implementation of effective drinking water quality actions. The scope of planned drinking water quality actions is by no means limited to source control, although some source control actions were given high priority for implementation because they could be rapidly implemented, because implementation costs can be lower than for more complex actions, and because they are expected to produce measurable results in terms of reduced loadings of constituents.

Currently proposed CALFED source control actions are likely to be somewhat limited in their capacity to improve Delta water quality. On the other hand, safe drinking water is presently being produced from the Delta, as defined by the current ability to meet drinking water standards. If drinking water regulations were to remain

unchanged, it is probable that safe drinking water could continue to be produced from the Delta, even without CALFED actions. It is not yet clear what level of source water quality improvement will be necessary to meet CALFED drinking water quality goals, as it cannot now be determined what future standards will need to be met or schedule for needed changes. CALFED's adaptive management approach is designed to be responsive to changing needs and conditions, to arrive at solutions that fit future needs. If meeting these needs requires further actions, these actions are within the scope of the Program.

WQ 12.5-3

A fundamental tenet of the CALFED Program is to develop cooperative relationships among all stakeholders, to pursue the common good of reducing the conflicts in the bay-Delta estuary system. Closely linked with this concept is emphasizing voluntary efforts over compulsion. The Program will achieve maximum success if all parties are dedicated to its success, and this dedication is most likely to come if the benefits of solving our problems are emphasized. Still, being successful will mean that a number of actions must take place whether all involved parties agree or not. Therefore, regulatory enforcement and other means of securing needed outcomes are available in situations where cooperative, voluntary efforts are not applicable or sufficiently effective.

Detailed impact analysis will be conducted as specific projects are developed during the implementation phase of the CALFED Program. These impacts will be documented as required by law, and mitigation measures will be identified and implemented as appropriate—as a condition of proceeding with projects. Financial assistance to enable water treatment upgrades is within the scope of the Program.

WQ 12.5-4

Additions to the list of CALFED drinking water quality actions will be developed with stakeholder involvement through the Drinking Water Constituent Work Group and the Delta Drinking Water Council.

WQ 12.5-5

CALFED is committed to continuous improvement in water quality for all beneficial uses of Delta waters, including drinking water supply. CALFED's commitment to drinking water quality improvement is to assure Delta waters can be feasibly and cost-effectively treated to meet current and future standards to protect public health, while avoiding significant redirected impacts of its actions. Therefore, inherent in CALFED planning is the need to improve water quality and avoid water quality degradation as a condition of being able to proceed with Program implementation. CALFED analyses indicate that, when the Program is implemented, the quality of water diverted from the Delta will be at least as good as would be the case in the absence of the CALFED Program. CALFED water quality actions will be geared toward maximizing this improvement. Therefore, long-term negative water quality impacts on diverters of Delta waters should not result from CALFED actions, although short-term impacts are possible as a result of such factors as construction activities and the effects of normal year-to-year hydrologic variations on CALFED actions. Impacts of this nature resulting from CALFED activities would be subject to disclosure in project-specific environmental documentation and subject to mitigation.

Stakeholders have recommended that CALFED establish salinity targets and interim water quality milestones. The need for such targets and milestones is to be considered by the Delta Drinking Water Council, the primary stakeholder advisory group to the CALFED drinking water program.

Water quality actions currently planned for Stage 1 of Program implementation are not likely to result in significant changes in the mix of sea water and fresh water in the Delta. Accordingly, salinity improvements from the currently envisioned Program are expected to be modest, although perhaps significant. CALFED recognizes

the importance of controlling salinity to enhance wastewater recycling and groundwater conjunctive use. This need will be taken into account as the Program evolves. The scope of the CALFED Program is sufficient to enable consideration of means of reducing sea water and fresh water mixing in the Delta, if that should prove necessary to the success of the Program.

WQ 12.5-6

Neither the list of actions nor the time frame are cast in concrete, as the commentor asserts. The list of actions has been amended to reflect changes in proposed activities listed in individual sections in the WQPP. Time frames by which projects can be started depend on funding and agreement from stakeholder and agency groups. Even prioritization will depend on previously mentioned work groups. Text associated with these tables has been revised to note the changeable nature of the tables, subject to revision according to CALFED adaptive management.

WQ 12.5-7

The Water Quality Program does not involve any components intended to alter the salinity in the Suisun Marsh area. Modeling (see Section 5.3 in the Programmatic EIS/EIR) shows negligible changes in salinity near Port Chicago (the edge of Suisun Bay).

12.6 Linkages

WQ 12.6-1

At the current programmatic level of detail, broad linkages among Program elements have been identified, such as potential negative impacts of ecosystem restoration actions on drinking water quality. It is true that linkages among Program elements must be specified in much greater detail; however, much of the needed specificity can occur only when detailed actions are planned during the implementation phase of the Program. The programmatic document was not intended to identify all linkages and relationships among CALFED actions; it is intended to establish an overall framework within which the needed specificity will be created. CALFED is committed to identifying Program linkages in significantly greater detail as Program detail emerges through the implementation planning process.

12.7 Management and Governance

WQ 12.7.0-1

Any project actions taken prior to legislative authorization for CALFED to contract on its own will be conducted through existing agencies and will be subject to current laws and regulations. The implementation schedule is discussed in response WQ 12.5-5.

12.7.1 Water Quality Program

WQ 12.7.1-1

No state or federal agency is required to take action based on any CALFED work group or council decision. All state and federal agencies have individual mandates and authorities that CALFED cannot override.

12.7.3 Water Quality Policy Team

WQ 12.7.3-1

CALFED recognizes efforts are in progress through the CVRWQCB, with the assistance of urban water agencies, to develop a Drinking Water Protection Policy. The Delta Drinking Water Council will be asked to consider whether to recommend CALFED policy-level and financial support for development of a Drinking Water Protection Policy. A recommendation from the Council would go to the BDAC and CALFED management for a decision.

12.7.5 Delta Drinking Water Council

WQ 12.7.5-1

The Delta Drinking Water Council is being formed as a subcommittee of the BDAC as required under federal law pertaining to public involvement. CALFED has invited the participation of stakeholders representing Contra Costa Water District, Antelope Valley-East Kern Water Agency, Helix Water District, Solano County Water Agency, City of Los Angeles, The Metropolitan Water District of Southern California, and Santa Clara Valley Water District. While the Council will report directly to the BDAC, Council representatives also will be invited to appear before the CALFED Policy Group as appropriate when Council recommendations are being considered. It is anticipated that the Council will play a strong role in recommending drinking water quality matters for Policy Group consideration and adoption. In the event that the Policy Group should, on occasion, decide not to follow the recommendations of the Council, it is anticipated that clear reasons for not accepting Council recommendations will be provided.

WQ 12.7.5-2

Invitations for membership on the Delta Drinking Water Council have been sent to key stakeholders, including representatives of agencies producing and distributing drinking water taken from various locations in the Delta. This group is intended to be a close working group that will provide the needed coordination of drinking water agency and CALFED actions to efficiently pursue improvement of public health protection. Representation on the Council was designed to enhance this coordination. As drinking water considerations are critical to the future of the Bay-Delta system, the Council is composed of a range of stakeholders who will be affected by CALFED actions directed at drinking water quality improvement. This representation is considered proportionate and appropriate.

WQ 12.7.5-3

The Delta Drinking Water Council will be asked to consider the need for a dedicated Water Quality Account to fund drinking water actions. The Council may recommend to the CALFED Policy Group that such an account be established.

WQ 12.7.5-4

The Delta Drinking Water Council will be asked to consider whether to recommend interim water quality milestones for adoption by the CALFED Policy Group. If the Council has done its work and the Policy Group has adopted interim water quality milestones by the time of finalizing the Programmatic EIS/EIR, the milestones will be included in the final Programmatic EIS/EIR.

12.7.7 Water Quality Technical Group

WQ 12.7.7-1

Please refer to response WQ 1.5-1 for a response to this comment.

WQ 12.7.7-2

Capturing stormwater flows for groundwater recharge is an excellent idea and one that will be studied in the CALFED Integrated Storage Investigation. Among the issues addressed will be the feasibility of capturing storm flows and infiltrating the stormwater into the groundwater without causing adverse effects on soil conditions or on groundwater. The faster that water is allowed to infiltrate (usually through a coarse soil such as sand), the higher the likelihood of contamination of the aquifer from the infiltrated water. In the Central Valley, raising groundwater levels can be helpful in most places. We must be careful not to mobilize toxics with a higher water table. The investigation should address these issues.

WQ 12.7.7-3

The use of tule marshes and other detention basins is being considered for the reduction of toxic contaminants in the stormwater treatment evaluation. CALFED has not yet funded these studies but may contribute to studies of this nature in the future. Some of the main concerns that need to be answered are whether contaminants filtered out of stormwater in such systems render the detention basin or tule marsh more ecologically damaging. In terms of groundwater infiltration, such marshes on the perimeter of the Delta frequently have clay soils that promote retention of water—which makes the marsh but also precludes infiltration of water.

WQ 12.7.7-4

CALFED does not have authority over water rights and cannot change overdraft practices that have led to depletion of the aquifers. However, CALFED is promoting some actions that are designed to reduce the need for releases to meet a salinity standard in the San Joaquin River. CALFED does not have authority over releases from any water containment system and therefore is not able to offer assurances on how releases are made. CALFED does not impose regulatory criteria in the river, but CALFED may participate in studies to support technically defensible salinity goals in the river. If salinity goals, or some regulatory equivalent, are met at all points in the river, releases would not be required. To this end, the WQPP proposes activities that would remove salt from agricultural return or drain water. Reusing drain water to its fullest will also reduce salinity by conserving flows in the river.

WQ 12.7.7-5

Although groundwater recharge is being contemplated, environmental reviews and feasibility studies have not been completed. In those activities, water quality will be considered. In addition to salts and metals, pH, hardness, pathogens, and other contaminants will be evaluated. It is essential that aquifers not be contaminated and that existing water purveyors be protected.

2.8 Finance Strategy

WQ 12.8-1

The CALFED drinking water objective is to protect the health of consumers by pursuing measures such as source control, alternate source waters, and treatment. To fully protect public health, the water must be safe to drink when it arrives at the taps of consumers. Accordingly, actions that may affect all parts of the system from source waters, through treatment, to delivery of finished drinking water to consumers is within the identified scope of the CALFED Program. The appropriate division of investments among the various approaches must be determined with the involvement of the stakeholders. The Delta Drinking Water Council and the BDAC are venues through which public involvement is enabled. CALFED welcomes all interested parties to participate in helping to determine the most appropriate emphases for correcting drinking water problems associated with Delta waters.

WQ 12.8-2

Wastewater recycling through groundwater recharge and other means is a high priority for CALFED. Accordingly, studies of health effects associated with such projects are within the scope of activities in which CALFED may participate.

WQ 12.8-3

As stated previously, CALFED actions are intended to add scientific and economic consideration to the development of water quality objectives and to control measures. This is evident in the role of CALFED in the low DO efforts in the San Joaquin River. CALFED is paying for the technical investigation of causes and sources of oxygen-depleting substances and is proposing to fund investigation of their control. The adaptive management process used by the Low DO Group simply changes focus toward more effective studies or systems and does not compromise assurances gained in the process. In doing so, it is intended that the new studies and control systems adhere to sound technical credibility. All of these processes are open to interested parties, to ensure that individual assurances are not jeopardized by advancing science.

12.9 Adaptive Management Strategy

WQ 12.9.0-1

The list of actions on pages 114 through 118 in the June 1999 Revised Phase II Report are abbreviated summaries of Stage 1 actions that are intended to be completed in the first 7 years of the Program. Early implementation actions pages 12-17 and 12-18 in the June 1999 WQPP are actions that are intended for implementation within the first 2 years of the Program. The latter table (Table 3) provides much greater detail on the intended actions. These actions were meant to correspond to specific summaries of activities listed in the June 1999 Revised Phase II Report. Upon review, some early implementation actions may not have been adequately described in the June 1999 Revised Phase II Report summaries. Through the stakeholder process, some other early implementation actions have been moved up in priority. These priority changes were not reflected entirely in the June 1999 Revised Phase II Report. The two lists have been further reviewed and revised for accuracy in the Revised Phase II Report. Tables 3 and 4 have been deleted from the WQPP; however, similar information can be found in the Implementation Plan.

Water Transfer Program Plan

Responses to Comments

WATER TRANSFER PROGRAM PLAN RESPONSES TO COMMENTS

0. General Responses

WT 00-1

Requiring water suppliers to meet water use efficiency requirements in order to participate in a water transfer will not likely impede a water market. This requirement, as currently discussed in the Water Use Efficiency Program Plan, is that a water supplier will participate in urban or agricultural planning and implementation programs that are administered by the California Urban Water Conservation Council (CUWCC) and the Agricultural Water Management Council (AWMC). A key aspect of these programs focuses on the identification of feasible conservation measures, not necessarily the immediate implementation. Therefore, a water supplier could easily be in compliance with the council's process prior to implementing all feasible conservation measures. They would then be able to participate in a water transfer by acquiring water (buyer) until feasible conservation measures can be put in place or generating revenue (seller) to finance water conservation measures.

WT 00-2

The Water Transfer Program Plan does not attempt to estimate the potential volume of water that may be transferred under any particular market conditions. Not only is it extremely difficult to understand the reaction of buyers and sellers to market, water resource, and local conditions, it is also difficult to estimate how much water could physically be transferred in a given year because of capacity constraints. The Water Transfer Program is intended to resolve issues regarding the functions of a market: operational and technical rules; third-party resource protections, and conveyance opportunities. The Preferred Program Alternative does not include any specific transfer as part of the Water Transfer Program. (Other elements of the CALFED Bay-Delta Program [CALFED Program], such as the Ecosystem Restoration Program, do identify water transfer actions. These actions will obtain temporary water supplies for in-stream flow purposes and will be subject to project-specific environmental compliance when willing sellers are identified.)

WT 00-3

Water transfers are based on the premise of a voluntary transaction between a willing seller and a willing buyer. Transfers on this basis have been occurring for several years. The Water Transfer Program simply seeks to improve the structure in which this current water transfer market operates. CALFED is not in the business of developing specific water transfer proposals (except for programs funded through CALFED that may seek to purchase water from willing sellers to augment in-stream flows). Specific transfer proposals will continue to be developed by local interests interested in participating in a water market.

CALFED is not attempting to discourage or promote particular water transfers intended to move water from one area of the state to another. CALFED is not halting water transfers until such time as new storage is developed. CALFED is not implementing actions that would result in mandatory or uncompensated water transfers.

Many stakeholders have expressed concern that CALFED will promote transfers that violate water rights established in the California Water Code, adversely affecting both local surface water and groundwater resources.

This concern is groundless. The Water Transfer Program entails changes, clarifications, and enhancements to approval procedures, operational requirements (e.g., reservoir refill and carriage water requirements), and analysis and disclosure requirements. Nothing in the program changes existing water rights or other California Water Code provisions such as the “no injury” rule, authorizes inappropriate transfers, or stops appropriate transactions.

CALFED agencies with transfer approval jurisdiction intend to add a new condition that will require transfer proponents to provide an analysis of potential groundwater impacts. This information will result in increased understanding of groundwater impacts that may be associated with a proposed transfer and allow for approval, conditioning, or denial of the proposal by the appropriate regulating entity based on information that may have otherwise not been provided.

It should also be noted that, as of October 1999, Governor Davis has signed legislation (Senate Bill [SB] 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protection to those who offer their water for temporary transfer to other users, including the environment. The CALFED agencies believe that this bill sufficiently addresses the issue of whether additional water rights protection is needed. It should be noted that SB 970 also attempted to shorten and streamline the approval process administered by the State Water Resources Control Board (SWRCB).

WT 00-4

A viable water market exists today—“interim rules” already are in place. As discussed in Section 2 in the Water Transfer Program Plan, hundreds of thousands of acre-feet of water are transferred between various water users throughout the state each year. Nevertheless, certain problems with water transfers are yet to be fully resolved. In this context, the CALFED agencies developed the Water Transfer Program. The program focuses on resolving these problems while facilitating the further development of the water market.

For instance, statutes and rules governing water transfers exist at both the state and federal levels, but in the absence of case law or SWRCB precedent, everyone does not agree with their interpretation and application by the entities granted jurisdictional authority. CALFED has identified programmatic-level actions to clarify and standardize these rules. Because the rules are complex and each transfer situation is unique, it could take several months to years to make changes to the existing rules and procedures. In the meantime, deliberations at the SWRCB on specific water transfers may help to provide more immediate clarity on interpreting a few provisions of the California Water Code.

Additional related information is found in responses WT 4-7 and WT 4.5.1-2.

WT 00-5

CALFED is a consortium of state and federal agencies with water or environmental management responsibilities in the Bay-Delta system. Therefore, the decision makers of CALFED are the same agencies that are active in discussing water transfer matters in forums outside CALFED. As part of CALFED, these same agencies are working together to better define and disclose their water transfer policies and procedures, thus allowing CALFED to find opportunities for improvement. However, as CALFED works toward solutions, stakeholders continue to bring water transfer issues before the SWRCB and the California Legislature, hoping for rapid changes to be implemented. Unfortunately, these actions take time and energy away from these same agencies participating as part of CALFED. In the absence of specific policy direction and/or authority to do otherwise, particular CALFED agencies will operate under their current policies and positions. CALFED's objective is to facilitate consensus that may lead to changes in these policies when and where they may be appropriate.

Performance criteria developed for the Water Transfer Program will consist of ensuring that actions identified in Section 4 in the Water Transfer Program Plan are implemented, including establishment and funding of a clearinghouse and adoption by state and federal approving agencies of additional impact disclosure requirements. In essence, a performance criterion could be developed for each of the actions listed in Section 4 in the program plan. These performance criteria should be able to be easily met and implemented.

As stated in other sections in the Programmatic EIS/EIR, the Preferred Program Alternative does not include land fallowing as a direct means of obtaining water supplies. Land fallowing, however, may result from locally initiated water transfer proposals, Ecosystem Restoration Program actions, and Levee System Integrity Program actions. Several of these actions are intended to improve habitat and levee integrity but are not included as a water supply measure. Any changes to the use of water associated with these lands would need to be discussed with the water rights holder at the time of the specific action.

The Programmatic EIS/EIR does not include a description of historical transfers and their benefits to both the buying and selling participants and regions, but substantial benefits for all parties can be achieved from properly designed and executed water transfers. Not only can a transfer provide a revenue stream for one-time capital expenditures, it can also provide a useful revenue stream to assist economic sustainability and regional water resource goals for a community—if proactively planned with the appropriate project “ownership.”

Water transfers involve a change in the use of water rights on a temporary or permanent basis. For transfers subject to SWRCB jurisdiction, the water rights holder must petition for a change. CALFED has no intention of changing this basic premise. Generally, a water user who is provided water through a water right held by a water supplier does not have the authority to transfer that water without the water rights holder’s (supplier’s) permission. In the case of the Central Valley Project (CVP), federal law allows for “user”-initiated transfers, but the U.S. Bureau of Reclamation (Reclamation), as a practical matter, still gives the district-specific oversight authority prior to federal approval.

Parties proposing water transfers need to be able to document how much water is to be made available for transfer and what action or actions are responsible for that availability. Such assessments require proponents to satisfy the queries of other legal users that “real” water is available. The best way to accomplish this is through comprehensive measurement systems that document water movement throughout a particular system—whether that be a reservoir, a district delivery system, or a farmer’s irrigation system. Documentation does not necessitate metering of every field delivery.

Water transfers are one of several water management tools included in the Preferred Program Alternative. CALFED is assuming that the current water market will continue to function and, with CALFED’s improvements, will be stronger in the future. However, other aspects of the Program do not depend on changes

to the existing water market. Even given the existing water market, CALFED's other actions will still be implementable and will move the State toward a long-term solution.

WT 00-12

Parties proposing water transfers need to be able to document how much water is available for transfer and what action or actions result in that availability. Such assessments allow proponents to demonstrate that "real" water is available. Water currently flowing to degraded groundwater or salt sinks is an ideal example of real water that can be conserved and made available to transfer. Other examples include reservoir reoperations, land fallowing, and conjunctive use. Regardless of the method used to make water available for transfer, the transfer must satisfy the California Water Code's "no injury" rule with respect to legal users of water, including in-Delta water rights holders.

WT 00-13

This comment speculates on the possible outcome of Phase 8 of the SWRCB's Bay-Delta proceedings. The Water Transfer Program Plan makes no assumption about any specific result of that proceeding with respect to water allocations. The program plan assumes only that a voluntary, willing seller/willing buyer water transfer market is part of the water management landscape in California and will continue to be an important tool for water management in the future. The program also acknowledges that water transfers in and of themselves do not create additional water supply, but they do play a role in a complete solution to the long-term water management problems of the state. This issue is also addressed in the components on water use efficiency, conjunctive use, and storage.

WT 00-14

The existing water market indicates that the price paid to the seller ranges from \$20 to \$200 an acre-foot. It is likely that increased competition for the limited amount of water made available by willing sellers will raise these prices. However, it is very unlikely that this price will increase so high that no one will be farming. This is primarily because of other options, such as water conservation, water recycling, and even sea water or brackish water desalting that become more competitive as the price for water on the market increases. These options also can be more reliable as a local supply and have other advantages over water transfers.

Furthermore, according to the Department of Water Resources' (DWR's) Bulletin 160-98, the demand for municipal and industrial (M&I) water will be about 40 percent of total agricultural use in 2020. Even if all M&I demand was met with agricultural transfers, it would not put agriculture out of business.

WT 00-15

The CALFED Program's proposal to in part condition the construction of new storage on making improvements in the structure of the water transfer market is likely to be satisfied by implementing the actions described in the Water Transfer Program Plan. There are no target quantities in this proposed condition. The condition could be satisfied, for instance, by implementing the water transfer information clearinghouse, clarifying definitions of transferable water, and having agencies adopt additional disclosure requirements.

The requirement to show efficient use by both the buyer and the seller in a water transfer transaction is based on the premise that all water users should be using water in the most efficient manner feasible (as discussed in the Water Use Efficiency Program Plan). This requirement would be satisfied by a seller being in compliance with planning and implementation guidelines developed and administered by the CUWCC and the AWMC.

Furthermore, CALFED is not involved in the Colorado River 4.4 Plan negotiations or in any legislation relating to it.

CALFED has included actions to improve the current California water market as one of several water management tools to help improve water supply reliability for all uses. Therefore, the working definition of a water market is simply that which exists already. CALFED is not trying to create a new market in order to shift substantial volumes of water from seller to buyers. Vast amounts of water do not need to be transferred for a “market” to exist. CALFED is trying to improve processes and protocols that provide the oversight in order to ensure that the existing market functions more effectively.

1.1 Why CALFED Has Included Water Transfers in the Preferred Program Alternative

Attachment 1 to the Water Transfer Program Plan lists the participants in the Bay-Delta Advisory Committee’s (BDAC’s) Water Transfer Work Group. The group met monthly for over a year, from August 1997 until November 1998. Although the participation of members listed in the attachment fluctuated, most were present at one or more of the 14 meetings held. This group was instrumental in helping to identify issues and constraints and to develop and discuss potential solution options.

The Water Transfer Program Plan does not propose any changes to current legal requirements for water transfers, except that specified information regarding a proposed transfer would be provided to the Water Transfer Clearinghouse and, in some cases, proponents may need to provide some additional impact assessments. The clearinghouse would not have any regulatory authority over a transfer (see response WT 4.4.1-10). The program plan recognizes that water transfers must be developed by local interests and will be subject to local control and approval, subject also to applicable federal and state law and the regulatory jurisdiction of the SWRCB.

1.2 The Role of Water Transfers in Water Management

As described in this section in the Water Transfer Program Plan, water transfers are considered to be one of many water supply management tools available to help resolve current water conflicts. Water transfers are based on the premise of “willing seller/willing buyer” and will continue to help meet water supply needs as hydrology and regulations continue to change. However, because markets are based on the willingness to sell, CALFED cannot readily predict the quantity of water that may be made available for sale under different conditions. Even without this information, the CALFED agencies believe that it is inaccurate to assume that water transfers are a threat to responsible planning. Responsible planning is a fundamental precept of the CALFED Program and, as a result,

CALFED has developed the Preferred Program Alternative that combines numerous complex and inter-linked actions to resolve a statewide problem. Additional related information is found in responses WT 1.2-8 and WT 4.4-2.

WT 1.2-2

The potential benefits offered by water transfers identified in this section in the Water Transfer Program Plan are not applicable in all cases nor in all regions of the state. Each benefit, however, is a legitimate one that has been achieved by one or more transfers in the past. CALFED does not assume that any future water transfers would provide all of these benefits. Benefits will be case specific. In other words, some water transfers will be based on actions that do not reallocate one beneficial use for another (for example, conservation of flows to saline sinks), while other transfers are basically a reallocation of one use of water to another. Regardless of the type of transfer, all water transfers are subject to state and federal laws intended to protect other legal water users (including groundwater users) and the environment from adverse impacts due to the transfer.

Furthermore, CALFED recognizes that water transfers are not a source of “new” water. Rather, they are a mechanism to allow water to move between water rights holders and other users, including the environment. Refer to response WT 1.2-4 for additional information.

WT 1.2-3

As described in this section in the Water Transfer Program Plan, one of the primary benefits of water transfers is “helping to relieve the mismatch ... by moving water available in one area to satisfy needs in another area.” This is a broad description for allowing the reallocation, on a temporary or permanent basis, of water diverted for one use to be transferred for use elsewhere. Transfers shift existing water uses and generally do not result in additional diversions from the environment, although they can result in a change in the timing of those diversions. (For instance, if some water currently diverted to export regions for agricultural uses was transferred to an urban use [also in the export area] through land fallowing or conservation activities, future demands for increased export diversions to meet growing urban needs could be reduced, although existing diversions levels would remain constant.)

This also means that water transfers can provide water for other uses within the same basin. Transfers do not necessarily result in water moving out of a basin.

WT 1.2-4

Water transfers are simply the legal mechanism to move water between legal users of that water. If conservation efforts reduce evaporation or reduce water flowing to unusable groundwater sources, it is the conservation effort that creates the “new” water, not the transfer activity. This is an important distinction. The statutes and policies that govern water transfers are based on how the water is made available to transfer, not on the simple fact that there is a “transfer.” For instance, water quantities expected to be made available through conservation, land fallowing, reservoir reoperation, contract entitlement shifts, or other mechanisms need to satisfy particular tests to ensure that those quantities truly exist and that they can legally be transferred from one user to another. CALFED agrees that many mechanisms can create new water, but it is not the transfer that does so. It is the method employed by the water user to implement a change in the place of use. The SWRCB treats a transfer proposal as an application for a “change” of a water right. The transfer is simply the mechanism to move the water made available through some action.

WT 1.2-5

CALFED agrees that water transfers can result in the movement of water between uses with different economic values. However, CALFED is not trying to direct a certain type of market. A market needs to operate with relative freedom to allow the value of water to users and the State's economy to determine who is willing to sell, who is willing to buy, and at what price. The Water Transfer Program is improving the framework within which this market will continue to function (the policies, rules, and protocols). Some water may be transferred from "low-value" uses to "high-value" uses, if the willingness exists. This is a difficult scenario to evaluate in a programmatic document. Therefore, the Water Management Strategy refinement process may be the more appropriate location to perform different "willingness to sell" scenarios. This work is already underway and is envisioned as a tool for helping to make decisions during Stage 1.

WT 1.2-6

The CALFED agencies do not believe that all water currently put to beneficial use in the Sacramento Valley will be transferred to areas outside the Sacramento Valley. However, one of the Water Transfer Program objectives is that more analysis and disclosure of potential impacts, including cumulative impacts, of water transfers be part of the public debate on specific transfer proposals.

WT 1.2-7

Water transfers can be designed to operate on several different time frames. One-year, annual long-term, optional shortage contingencies, and permanent transfer of water rights are all examples. The Owens Valley example cited by many stakeholders as a reason to be concerned with protecting water rights is actually an instance of a permanent sale of water rights. Although the permanent transfer of water rights may still occur, the majority of transfers that have been happening and are anticipated by buyers and sellers are 1-year transfers and various types of long-term arrangements with life spans of 5, 10, or 20 years. The current transfer provisions in the California Water Code specify that transfers of this sort do not change the underlying water rights.

Furthermore, as of October 1999, Governor Davis has signed legislation (SB 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protections to those who offer their water for sale—helping to further ensure that water rights held by many northern California interests would not be put at risk by offering water for temporary transfer to other users, including the environment. The CALFED agencies believe that this bill removes the need for additional water rights protections.

WT 1.2-8

Water transfers will continue to be governed by California water rights law. Actions taken by the United States or other countries under agreements such as the North American Free Trade Agreement will not undermine the State's system of water rights.

1.2.1 Relationship to Other Programs

WT 1.2.1-1

As described in this section in the Water Transfer Program Plan, the CALFED agencies believe that storage and conveyance must be enhanced to allow transfers to play an optimal role in statewide water management (this enhancement is described more fully in the Phase II Report). However, even without improvements in storage

or conveyance, CALFED intends to resolve issues that constrain the existing transfer market, including such issues as third-party impacts, operational rules, and approval processes.

WT 1.2.1-2

As described in this section in the Water Transfer Program Plan, the Preferred Program Alternative includes several mechanisms to ensure that water is available for augmenting in-stream flows or for improving the health of fisheries. One such mechanism is water transfers—purchasing water from a willing seller. The Water Transfer Program is improving the framework within which transfers operate. The transfer program, however, is not where specific water transfer needs are discussed. These and other mechanisms, including regulatory actions, fish screens, flexibility in Delta operating standards, the Environmental Water Account, and habitat restoration—to name a few—are discussed in other parts of the Preferred Program Alternative. The Water Transfer Program is evaluating additional mechanisms described in Section 4 in the Water Transfer Program Plan, such as improved tracking and monitoring protocols for water transferred to the environment and the possibility of establishing additional protections for in-stream flows. CALFED sees water transfers and improvements in the water transfer framework as one tool to be used in achieving the goal of a healthy ecosystem.

2. Water Transfers Defined

WT 2-1

As discussed in the sidebar in this section in the Water Transfer Program Plan, CALFED is not in the water transfer business. Because of the Program's focus on the structure and operation of the water market, analysis of specific water transfers is not appropriate in this programmatic environmental document. As willing sellers and willing buyers continue to come together, individual transfer proposals will need to comply with state and/or federal regulatory and environmental requirements. At such time, these transfers will necessarily undergo more detailed analysis to ensure that water rights are protected, third-party impacts are appropriately handled, and environmental impacts are avoided or mitigated.

2.1 Water Transfer Law and Policy: State and Federal

WT 2.1-1

The overview of water transfer law in this section in the Water Transfer Program Plan was intended to be just that, an overview. CALFED will consider expanding some aspects of the overview to try to articulate Central Valley Project Improvement Act (CVPIA) provisions and how they interact with state law, and to explain the definition of “imported water” as used by the SWRCB.

WT 2.1-2

The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the “no injury” rule in state law. CALFED does not intend to recommend changes to the current system of water rights as defined in the California Water Code. The program plan recognizes and attempts to describe how Water Code sections such as the “no injury” rule are generally applied by the regulatory agencies.

Individual water transfer proposals will be subject to applicable federal and state law and, in some cases, the regulatory jurisdiction of the SWRCB. The SWRCB has no authority to directly address groundwater rights but does consider impacts on groundwater users as part of its evaluation of “no injury” for specific water transfer proposals.

Furthermore, provisions in the Water Code do require water transfer proposals to satisfy groundwater management requirements as one aspect of approval (for instance, Section 1745.10). Most proposed transfers do not fall under these provisions, however.

To help with this situation, as stated in Section 4.4.2 in the Water Transfer Program Plan, CALFED is recommending that agencies with review authority require transfer applicants to provide groundwater impacts assessments prior to review of the application. This disclosure requirement is intended to provide analysis when it otherwise may not be required.

WT 2.1-3

The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the “no injury” rule in state law. CALFED does not intend to recommend changes to the current system of water rights as defined in the California Water Code. Individual water transfer proposals will be subject to applicable federal and state law and, in some cases, the regulatory jurisdiction of the SWRCB. CALFED is not intending to promote one type of transfer over another.

3.3 Environmental, Socioeconomic, and Water Resources Protection

WT 3.3-1

The potential solution options identified for each issue in this section in the Water Transfer Program Plan were developed through numerous stakeholder and inter-agency meetings. The strategic plan of action to resolve each of these issues is described in Section 4 in the program plan. For each issue, only one solution option was brought forward. The selected option was the result of many months of stakeholder and CALFED agency meetings and discussions. The solutions chosen typically do not fully satisfy all stakeholders and CALFED agencies. They do, however, represent consensus solutions that provide some satisfaction to all parties. Most of these actions will not require legislation and can be implemented within the existing framework of laws, statutes, and policies.

3.3.1 Third-Party Socioeconomic Impacts

WT 3.3.1-1

The potential for third-party water quality degradation in export areas due to low-quality source water transferred into the area is limited. This concern is generally resolved through requirements placed by the approving agency (DWR, Reclamation, or SWRCB) on the source water provider to meet particular water quality requirements. For instance, prior to directing transferred water into the California Aqueduct, DWR requires the proponent to ensure that the water being introduced passes particular water quality standards. Water quality requirements such as these are generally the rule. In some situations, however, the approving agency may allow the standards to be violated, which may result in some impacts. These circumstances will continue to be handled on a case-by-case basis and do not lend themselves to a universal solution.

3.3.2 Groundwater Resource Protection

WT 3.3.2-1

The CALFED Program has developed a set of conjunctive use principles that articulate the need for local ownership, local involvement, and local acceptance of conjunctive use projects—including a need to adequately address third-party concerns. These principles can be found in the Phase II Report.

3.3.5 In-Stream Flow (Section 1707) Transfers

WT 3.3.5-1

Water Code Section 1243 provides that the use of water for recreation and preservation and enhancement of fish and wildlife resources is a beneficial use of water. When the SWRCB receives an application to appropriate water for other beneficial uses, the SWRCB must notify the California Department of Fish and Game (DFG), which may make recommendations to the SWRCB regarding the amount of water required for the preservation and enhancement of fish and wildlife resources. Pursuant to Sections 1243 and 1243.5 and the recommendation received from DFG, the SWRCB may impose conditions on a permit or license for the preservation or enhancement of fish and wildlife. However, Section 1243 does not authorize the SWRCB to receive an application or issue a permit for an in-stream appropriation. An appropriative water right requires a diversion of water for some reasonable and beneficial use.

Section 1707 provides that a water user entitled to the use of water, under any type of water right, may petition the SWRCB for a change in purpose of use to preserve or enhance wetlands, fish, wildlife or recreation in or on the water. The proposed use does not require a diversion of water. The SWRCB must make certain findings to approve a Section 1707 change petition, including no increase in the amount of water used and no unreasonable effect on another legal use of water. A Section 1707 transfer could result in the dedication of water held under any type of water right to environmental purposes. Presumably, this could reduce the amount of water available for downstream users, depending on the place and purpose of use of the water (for example, Delta outflow). The SWRCB would need to make a finding that any such reduction in availability does not constitute an “unreasonable effect” on another legal user of water.

3.4.1 Transferable Water and the “No Injury” Rule

WT 3.4.1-1

Several California court decisions over the past few decades have confirmed that the importer of water into an area retains the right to use return flows and the right to capture and use imported water that has percolated to the underground. This is in essence the concept of water banking. However, California law also distinguishes between the use of groundwater on overlying lands and the appropriation of groundwater for use on, or transfer to, nonoverlying lands. Such use is treated as an appropriation of groundwater and has a lower priority than overlying use of groundwater. The water transfer rules of the CVPIA and the provisions in CVP water service contracts appear to be consistent with these concepts.

Regarding return flows, CVP contracts typically provide that the United States retains the right to all seepage and return flows that leave the contractor’s service area while recognizing the right of the contractor or those claiming under the contractor to make reasonable and beneficial use of such water. Reasonable and beneficial use of such water could include the transfer of such water but only if the water were otherwise transferable under State law—which, in most cases, is subject to the “no injury” rule (i.e., that the transfer of the water should not injure another legal user of water.)

It would appear that the potential for conflict between the federal and state law would arise not when the contractor or a water user of the contractor proposed to transfer a saved return flow, but rather when the return flow leaves the contractor’s service area and a downstream user claimed a right to such water as abandoned or unappropriated against a claim of the United States that such water was still CVP water under the control of Reclamation.

With respect to groundwater, CVP contracts have typically provided, somewhat indirectly, that project water, once it has percolated to the underground, is no longer considered to be CVP water when it is pumped and used by overlying landowners. The provision in question specifically deals with the case where groundwater is pumped and used on lands that are not eligible for CVP water. By providing that such use is not deemed to be a furnishing of project water to an ineligible user, the contract establishes the clear implication that water applied under a CVP contract, once it has become percolating groundwater, is no longer project water. At that point, consequently, state law on groundwater applies rather than any rules of federal law or contract.

As noted above, the transfer of groundwater—if the place of use is not on overlying lands—is generally treated as an appropriation of groundwater. As a general rule, only water surplus to the needs of the overlying users can be appropriated (transferred) or used on non-overlying lands. In an area where overlying use exceeds the safe yield of the groundwater basin, no groundwater is available for appropriation or transfer, irrespective of the original source of the groundwater. Note that this is not inconsistent with the idea that the importer of water retains the right of use of such water, even after it has percolated to the underground, only that the importer of such water may not have the right to transfer such water to non-overlying lands. There are, of course, exceptions to these rules, particularly in certain southern California basins, where the rules of mutual prescription have been applied or where the groundwater basin has been adjudicated.

The application of these rules do not preclude the scenario posited in the comment wherein a CVP or SWP contractor takes measures on a district-wide basis to reduce the total amount of deep percolation resulting from application of project water and then transfers the saved contractual entitlement. However, in many cases, such a transfer would be subject to the “no injury” rule of Water Code Sections 1702, 1706, or 1725. This is a function of state law, not federal rules, as the comment suggests. It should also be noted that, in general, one of the original purposes of the CVP, particularly in the San Joaquin Valley, was to operate on a conjunctive use basis (i.e., to provide surface water in years of surplus so that local water users could conserve their groundwater for use in dry years). The comment suggests that, but does not make clear how, federal water transfer rules are not consistent with project purposes.

The comment also suggests that the development of a water transfer market would be encouraged or promoted by treating the pumping and usage of groundwater incidentally recharged by the application or delivery of project water to a CVP contract service area as a use of project water, and charging for such water at the project water rate. It is not clear how this could be consistent with state law. Neither the state nor the federal government has any jurisdiction (with the exception of groundwater basins adjudicated under state law) to regulate or manage the extraction of groundwater; as noted above, once the applied water has percolated to the underground, it loses any characteristic of project water. As the comment notes, there are cases where local agencies, pursuant to state law, manage their own groundwater basin, including the impositions of pump taxes or benefit assessments. Nothing in the CVPIA or the CVP water service contracts prohibits CVP contractors from implementing these same kinds of programs. In fact, one of the examples cited in the comment is a CVP contractor.

WT 3.4.1-2

CALFED did not create the definitions or rules for saved or conserved water or the concept of “real water.” This section in the Water Transfer Program Plan attempts to objectively describe how the existing law is interpreted and applied by the agencies (primarily, the SWRCB, DWR, and Reclamation) with varying degrees of jurisdiction over water transfers. The CALFED Program does not have any legal or regulatory jurisdiction over transfers or over the application of the “no injury” rule of state law. The program plan recognizes and attempts to describe how the “no injury” rule is generally applied by the regulatory agencies. The program plan specifically recognizes the difference in opinion among various interests as to how the “no injury” rule should apply to some types of transfers and the differences in viewpoints about the transferability of saved or conserved water. The intent of the

program plan is to identify and describe these issues and to propose solutions or solution processes that will facilitate the further development of the already existing water transfer market, while protecting local water rights and interests. Solutions are presented in Section 4 in the Water Transfer Program Plan, not in Section 3.

The comment accurately states the problem of interpretation of Water Code provisions by noting that, in the Sacramento Valley, tailwater or return flows that are not recaptured for direct use by the diverter generally return to the system. This fact directly highlights the problem of transferability of saved or conserved water, since one of the tests of transferability is whether the water would be used downstream in the absence of the transfer (i.e., would return to the system). If so, the “no injury” rule is applicable and the transfer could not be approved. The comment states an interpretation of the “no injury” rule that is inconsistent with the interpretation made by the SWRCB. Not all conserved or saved water is transferable. Saved or conserved water may be transferable if it meets the transferability tests of other provisions of California water law, such as the “no injury” rule. The seniority of a water right is irrelevant to the determination of the applicability of the “no injury” rule.

3.4.3 Operations Criteria and Carriage Water Requirements

WT 3.4.3-1

CALFED agrees that the following statement (on page 3-11 in the June 1999 Water Transfer Program Plan) is not completely accurate and has deleted the sentence from the final document:

“The conveyance of transferred water may reduce Delta outflows, thereby requiring additional releases from storage to maintain compliance with operating criteria.”

3.4.4 Reservoir Refill Criteria

WT 3.4.4-1

The Water Transfer Program Plan accurately states that “Transferors of stored water contend that their actions do not cause harm to other legal users of water.” The CALFED agencies believe that the issue descriptions adequately portray the issue. More emphasis should be placed on considering the solutions discussed in Section 4 in the program plan. The CALFED agencies are committed to standardizing the application of refill criteria through stakeholder interaction. This will occur early during Stage 1 implementation.

3.5.2 Priority of Transferred Water in New Facilities

WT 3.5.2-1

CALFED has not addressed this issue. Currently, the Preferred Program Alternative (see the Phase II Report) does not include a new conveyance facility. Therefore, discussions about how to pay for a portion of such a facility to be available for water transfers is premature. Also see response WT 4.6.3-1.

4. Program Framework

WT 4-1

The Water Transfer Program Plan is CALFED’s strategic plan to improve the framework within which the water market in California functions. Section 4 in the Water Transfer Program Plan describes several actions and processes for resolving issues. These are necessarily programmatic in nature, since the current phase of the

CALFED Program is also programmatic. As stated in response WT 00-4, the existing California Water Code provisions and articles of the 1992 CVPIA contain the “rules” governing current market functions. CALFED agrees that they need to be improved but disagrees that there is no viable market in the meantime. Many stakeholders have commented that they do not want the Water Transfer Program to adversely affect their current ability to transfer water.

CALFED agrees with the immediate need to continue to move toward resolution of all the issues described in Section 3 in the Water Transfer Program Plan. The actions and processes in Section 4 in the program plan describe the work plan that CALFED is following. Early implementation of some of these actions is feasible and is currently underway. Otherwise, implementation is expected during the early years of CALFED’s Stage 1. More detailed descriptions of many of the actions have been included in the Water Transfer Program Plan.

WT 4-2

As described for many of the actions identified in this section in the Water Transfer Program Plan, stakeholder involvement is critical to successful implementation of these actions. At this time, specific actions are described only at a programmatic level. This is in part because of the need for more stakeholder interaction to discuss specific components of each action. Plans for stakeholder involvement during Stage 1 are being developed and, in some instances, are moving forward. For example, CALFED is working with the Bay-Delta Modeling Forum to facilitate a public workshop in order to discuss appropriate modeling tools for estimating carriage water requirements. Consensus on a tool will be reached only after such stakeholder interaction. Other actions will require similar stakeholder involvement.

One of the reasons CALFED had limited stakeholder interaction during the few months prior to the release of the Water Transfer Program Plan was because of a need to facilitate inter-agency discussions on several key issues where CALFED agencies have jurisdiction. Clear disclosure of current interpretations by DWR and Reclamation on particular Water Code provisions is essential for engaging stakeholders in useful interactions. Stakeholder interaction will be increased for these types of issues during Stage 1 implementation.

WT 4-3

The concern is valid that CALFED agencies participating in the development of solutions for water transfer constraints have a conflict of interest, because they themselves participate in markets and have water rights to protect. However, these agencies also have legal authority and responsibility for water transfers under state and federal statute, and are required to be involved in the review and approval of water transfer proposals. CALFED hopes that actions described throughout this section in the Water Transfer Program Plan will help to eliminate these concerns. For instance, developing standard definitions for transferable water is an important objective but not very useful if those definitions are developed with absolutely no stakeholder interaction and debate. CALFED recognizes that the key to moving forward with a market is for all water rights interests to agree to standardized procedures for determining transferability. This task means that federal agencies buying water for streamflow would be subject to the same rules and definitions as local public entities. This task will not be easy and will require time and dedication by stakeholders to engage in objective discussions on such issues. As described in response WT 4-2, stakeholder interaction will be increased as we move into implementation stages. The actions described in the final Water Transfer Program Plan remain programmatic. Additional information is found in response WT 00-4.

Consistent terminology is vital to overcoming concerns about water transfers and allowing legitimate issues to be addressed. Through the implementation of actions described throughout this section in the Water Transfer Program Plan, CALFED will strive to build standard, mutually agreeable language for water transaction-related terms. This will most likely manifest itself through the development of a web-based water transfer application system, where adherence to and understanding of terms are critical to successfully inform water transfer interests about requirements, procedures, and protocols.

CALFED is not promoting a “free” water transfer market. The Water Transfer Program actions are intended to improve the structure of the current water market, including many regulatory protections and protocols. This section in the Water Transfer Program Plan fully describes the programmatic actions CALFED will implement during Stage 1 (after the signing of the Record of Decision [ROD] on a Final Programmatic EIS/EIR).

The actions listed in this section in the Water Transfer Program Plan are intended to result in similar improvements to the current water market.

CALFED agencies, especially DWR, Reclamation, and SWRCB, are all actively participating in developing CALFED’s Water Transfer Program. These agencies are committed to resolving differences, improving coordination, and working with stakeholders to make necessary improvements in the existing water market framework.

4.1 Objectives Governing the Development of Solution Options

CALFED agrees that criterion number 3 on page 4-2 in the June 1999 Water Transfer Program Plan should state that “Water rights of any legal user must not be impaired.” This change has been incorporated.

The objectives and criteria included in this section in the Water Transfer Program Plan already embody this principle.

4.4 Environmental, Socioeconomic, and Water Resources Protection Solutions

As part of the effort to facilitate in-stream transfers under Water Code Section 1707, CALFED is developing improved tracking and monitoring protocols to ensure that water designated for a particular downstream purpose reaches its destination. California water system law recognizes that multiple uses and benefits can be realized from the same water. The water appropriation system allows downstream legal users of water to divert and put to beneficial use any water that has been returned to a water system (abandoned) by an upstream water user. CALFED will

formalize when and how those transferring water to the streams can use this provision to protect their investments.

In addition, all water transfer proposals that involve local agency action or review by state or federal agencies need to comply with appropriate environmental impact assessment requirements. This legal requirement will not be affected by actions of the Water Transfer Program and, in many instances, should be enhanced.

WT 4.4-2

Actions included in this section in the Water Transfer Program Plan are intended to increase the level of protection for third-party interests and improve understanding of water transfer benefits and impacts. Actions such as potential additional analysis could seem counter-productive to proponents, but they are really intended to address the realities, fears, and perceptions of third-party and source area interests. CALFED is concerned that a lack of information and understanding of transfer impacts result in further barriers to viable water transfers. However, this same lack of information can allow irresponsible transfers to be approved, resulting in unnecessary impacts to local resources. It is CALFED's belief that by being more forthright with information, transfer proponents can alleviate many third-party concerns—by fully disclosing what may happen to local resources and how such impacts will be avoided or mitigated. A water transfer market cannot function efficiently without a free flow of information among transfer proponents and third-party interests. CALFED's actions move toward that long-term objective of a regulated and protective market that will provide local benefits, as well as benefits to the buying and selling entity and region.

WT 4.4-3

CALFED agrees that water transfers should not result in significant, unmitigated impacts on low-income farm workers. However, CALFED does not agree that a federally or state-mandated "tax" paid by proponents would facilitate a water market; it may instead create an obligation that would discourage desirable transfers. (CALFED, however, does not have any authority over local entities that are able to enact requirements, such as a tax.) CALFED intends that efforts of the clearinghouse will help reduce the potential for adverse impacts to local work forces by facilitating research and development of mitigation "tool boxes." Project-specific mitigation may or may not include fees to be paid. A universal tax is inappropriate.

WT 4.4-10

This response has been consolidated with response WT 4.4.1-10. Please refer to this response for an answer to your comment.

4.4.1 Water Transfers Information Clearinghouse

WT 4.4.1-1

As discussed in this section in the Water Transfer Program Plan, a clearinghouse would be created to perform several functions. Through the facilitation and development of impact assessment tools and mitigation strategies, the clearinghouse will be able to help third parties to ensure that their interests are considered in the evaluation of water transfer proposals. The clearinghouse will develop a "toolbox" of mitigation strategies that will be useful to local interests concerned about transfer impacts. The clearinghouse will also facilitate research regarding the cause/effect relationships between changes in water management as a result of transfers and attributes such as local groundwater resources, terrestrial habitats, and job base. The clearinghouse will also ensure that all information

regarding a proposed transfer is publicly disclosed, so that local, state, and federal entities are better enabled to make decisions with a full understanding of the proposed transfer.

WT 4.4.1-2

As referred to in this section in the Water Transfer Program Plan, the Comprehensive Monitoring, Assessment, and Research Program (CMARP) concurs with the need for development of baseline hydrologic surface water and groundwater information. Through the CMARP and the information clearinghouse, such information will be developed. This type of general information should provide transfer proponents as well as local interests with a broader understanding of basic configurations and relationships of their local water resources. Additionally, monitoring of specific water transfer projects will need to be included as part of each water transfer proposal. One way to ensure that this information is included is by developing mitigation and monitoring tools, as described in response WT 4.4.1-1, for use by project proponents and local and state agencies with jurisdiction over a specific water transfer.

WT 4.4.1-3

The term “if necessary” in this sentence refers to whether the proponent needs such a toolbox of mitigation strategies. The clearinghouse will include a toolbox to be used by proponents “if necessary.”

WT 4.4.1-4

The clearinghouse described in the Water Transfer Program Plan will assist with disclosure of information through the use of a web site. As applications are submitted to DWR, SWRCB, and/or Reclamation, the agencies will forward the information to the clearinghouse for posting. (Currently, not all transfers are under the jurisdiction of the SWRCB and may not be adequately noticed.) It will continue to be the responsibility of local interests to monitor this information, to ensure that they know about proposed transfers that may affect them. The clearinghouse may also provide a public forum, or ensure that one is provided, for a public discussion of proposed transfers, as needed.

Legislation recently signed into law by Governor Davis (SB 970) adds provisions to the California Water Code that impose some additional noticing requirements on transfer applicants.

Additional information is found in responses WT 4.5-1 and WT 4.5.1-1.

WT 4.4.1-5

The clearinghouse will assist with developing a better understanding of the relationships between water sources, transfers, and various “externalities” (for example, third-party impacts). Improved understanding should help to ensure that water transfers occur when there is appropriate support for them and that necessary impacts are mitigated. The Water Transfer Program, however, is based on the current system of water rights in California; current law does not require that water rights holders be responsible for all impacts of a transfer. CALFED anticipates that, by development and disclosure of better information and research findings, impacts that may occur from a water transfer are better known and issues about responsibility can be more easily resolved.

WT 4.4.1-6

CALFED agrees that disclosure of environmental impact information associated with a proposed transfer—regardless of its intended use for agricultural, urban, or environmental purposes—is necessary. It is the

intent that the clearinghouse, upon receipt of a proposal, would post all relevant information, including all impact reports, on a web site for public review. This posting is simply for disclosure purposes and does not initiate any formal public review process. The reviewing and approving agencies (DWR, SWRCB, and Reclamation) would provide the appropriate public involvement forums in accordance with existing legal requirements. In addition, the web site will post all transfers, regardless of their purpose, when they are formally accepted for review by an oversight agency.

WT 4.4.1-7

Any models developed or facilitated by CALFED to improve our collective understanding of groundwater and surface water interactions would necessarily be directed toward specific basins or groups of basins. CALFED does not intend that one Central Valley model be developed.

WT 4.4.1-8

The intra-district water transfers referenced in this section in the Water Transfer Program Plan are those that happen when water users within a district transfer their surface water among each other. This type of transfer is heavily practiced in districts such as Westlands Water District, a CVP contractor. CALFED does not see long-term cumulative impact potential from such transfers. They require only the approval of the water district and involve only water rights or water contracts that the district already holds. In recent years, Westlands Water District alone has experienced several thousand water transactions among its growers.

WT 4.4.1-9

The referenced statement from the Water Transfer Program Plan is included in a section on optional functions of a clearinghouse. The clearinghouse is not intended to be a new regulatory entity. Its primary function will be public disclosure of proposed water transfers. However, the clearinghouse includes optional functions that could be administered by clearinghouse staff on a contractual basis. The disclosure of information would be free to the public—analysis or interpretation of any information may need to be contracted for on an individual basis.

WT 4.4.1-10

The two functions of the clearinghouse are to:

- Disclose information on proposed transfers through an electronic medium (web site or other) for broader public access to the details of the transfer.
- Promote or facilitate data analysis of historical water transfers, and add new transfers to a database as they are approved to increase the overall understanding of relationships between water transfers and real or perceived impacts.

The clearinghouse has no regulatory function. The clearinghouse does offer an opportunity for DWR, SWRCB, and Reclamation to coordinate functions, standardize policies and procedures, and further streamline review periods.

4.4.2 Analysis Disclosure Requirements

WT 4.4.2-1

Water supply development by management of groundwater is a sound concept in many areas of the state. Generally referred to as conjunctive use or groundwater banking, this process allows existing groundwater resources to be managed to allow carryover of existing supplies or to produce additional water supplies—either for use locally to meet growing needs or for temporary transfer. The potential for such projects varies throughout regions of the state. If a project is developed for transferring water to another user, either directly or in combination with a surface water supply, the Water Transfer Program recommends that approving agencies require the seller to satisfy certain additional analysis and disclosure objectives. These requirements, discussed in Section 4.4.2 in the Water Transfer Program Plan, should result in a transfer being developed and conditioned such that local groundwater users are not adversely affected.

The CALFED agencies consider it inappropriate to limit local entities who wish to develop conjunctive use projects for the local management of groundwater resources. Therefore, the program, including the conjunctive use actions and principles described as part of the storage component of the Preferred Program Alternative (see the Phase II Report), does not contain any actions to stop the transfer of groundwater out of a “basin” simply because of failure to increase storage in the statewide system. CALFED is advocating locally developed conjunctive use projects to include monitoring and mitigation mechanisms as key aspects of their projects in order to gain local acceptance and ensure that local impacts, if any, are mitigated to acceptable levels.

Refer to responses WT 4.4.1-1 and WT 4.4.1-2 for additional information on providing increased protection for groundwater interests and improving our understanding of groundwater systems.

WT 4.4.2-2

CALFED is recommending that agencies with jurisdiction over proposed water transfers begin to require additional impact assessments as part of an application to transfer. Local socioeconomic impacts, cumulative impacts, and groundwater impacts will be part of the information provided and publicly disclosed by the proponents. In addition, all proposed transfers will need to satisfy applicable state or federal environmental compliance requirements, regardless of the proposed use of the transferred water. The CALFED agencies think that all transfers should be subject to the same review criteria and analytic requirements. The proposed actions reflect that view.

WT 4.4.2-3

As described in this section in the Water Transfer Program Plan, CALFED has included an action recommending that approving agencies require additional impact assessments to be provided by the proponent at the time of applying for approval for a proposed water transfer. These requirements include socioeconomic impact analysis, cumulative impact analysis, and groundwater impact analysis. The level of analysis will vary with the type of water transfer (for example, a fallowing transfer needs to address socioeconomic impacts more than a reservoir reoperation transfer would) and the local socioeconomic and hydrologic conditions.

4.4.3 Solution Process for Environmental Protection Issues

WT4.4.3-1

CALFED agrees with the need to recognize the legal rights and benefits associated with multiple uses. The intention of this solution process is to develop protocols so that in-stream flow transfers are more likely to be implemented for multiple uses. California water law recognizes that multiple uses and benefits can be realized from the same water. The water appropriation system allows downstream legal users of water to divert and put to beneficial use any water that has been returned to a water system (abandoned) by an upstream water user. Initial efforts will focus on ensuring that in-stream flow transfers are clearly defined by purpose and destination, and by identifying who has the right to use the water at what point in the system. This will allow for more opportunities to benefit in-stream flows as well as diverted uses with the same transfer.

WT 4.4.3-2

CALFED will include a wide array of stakeholders in this process. Those with experience on similar issues will provide much needed insight and context.

4.4.4 Additional Water Rights Legislation

WT 4.4.4-1

In October 1999, Governor Davis signed legislation (SB 970) that includes additional water rights protection provisions. The author of this bill, Senator Jim Costa, intended these provisions to provide additional water rights protections so that those who offer their water for sale would not put their water rights at risk by temporary transfers to other users, including the environment. The CALFED agencies believe that this bill removes the need for additional water rights protections; CALFED therefore does not intend to pursue additional legislative action for this issue.

4.5 Technical, Operational, and Administrative Rules

WT 4.5-1

Many of the actions discussed in this section in the Water Transfer Program Plan are directed at clarifying and standardizing rules and procedures. Among these is a need for the SWRCB to clearly articulate the definition of a “basin” as used in many aspects of water transfers. The potential exists for rules to vary based on “in-basin” and “out-of-basin” uses, but only if there is a clear understanding of what a basin is. CALFED will facilitate this clarification as it implements the actions described in this section.

4.5.1 Solution Process to Resolve Transferable Water Definitions

WT 4.5.1-1

The concern about whether a proposed water transfer will adversely affect another legal user of water is hotly debated. The California Water Code contains several provisions directing agencies with jurisdiction to approve water transfers to approve a transfer only if other legal users of water are not adversely affected—known as the “no injury” rule. The question often debated is “Who is a legal user?” In some instances, return flows from an irrigation activity do not provide water to another legal water user; in even more instances, they do. In some instances, groundwater users have legal rights to water that has percolated into an aquifer; in other instances, they

do not. The Water Transfer Program, through implementation of the action described in this section in the Water Transfer Program Plan, will help to clarify the conditions that allow water to be transferrable. These conditions can depend on characteristics such as duration of the transfer, destination, underlying water rights, and how the water was made available to transfer (for example, by conservation or fallowing). This clarification can result in some transfers being viewed as an incentive to conserve, although this will not always be the case. Transfer rules reflect that a significant amount of the return flow generated by irrigation events generally returns to a surface water or groundwater source that is available to other legal users of water. However, opportunities to transfer conserved water without adversely affecting other legal water users do exist and should be facilitated by the implementation of the CALFED Program.

WT 4.5.1-2

As discussed in this section in the Water Transfer Program Plan, CALFED will continue to facilitate discussions to resolve transferable water issues. Stakeholder participation will be a key component of developing better definitions and interpretations of sections in the California Water Code where disagreement now exists. More facilitated stakeholder participation will occur in Stage 1, after the ROD is signed for the Final Programmatic EIS/EIR. It is CALFED's goal to ensure that all interests are fully represented during these discussions. The discussions will not impede the ability to continue to execute transfers under existing DWR, Reclamation, or SWRCB policies and procedures.

4.5.2 Clarification of Carriage Water Requirements

WT 4.5.2-1

CALFED had used the term “carriage water” in the most broad sense when describing actions to clarify additional flow requirements to allow cross-Delta water transfers. CALFED recognizes that several conditions governing the amount of “carriage” water need to ensure no impacts to other legal users of water. These conditions may be driven by salinity constraints, the export/inflow (E/I) ratio, biological requirements, or other Delta operational constraints.

The intent of this action is to clarify a standard method (or set of tools) that will be used to: (1) analyze what condition is most likely to be governing during a proposed cross-Delta transfer, and (2) approximate the quantity of water needed to meet requirements (if any). The purpose of this action is to provide transfer proponents with a tool, or at least knowledge of what tools will be used by approving agencies, for assessing carriage water requirements. This should allow the seller to appropriately include necessary limits, conditions, or other language in contracts with the buyer. Currently, little information is provided up-front to enable the proponent to reasonably assess this important portion of their water transaction.

4.5.3 Resolution of Reservoir Refill Criteria

WT 4.5.3-1

Reservoir refill criteria arise from the application of the California Water Code's “no injury” rule to stored water transfers as a unique situation applicable to the state and federal water projects. Refill criteria do not preclude the standard application of the “no injury” rule to other types of transfers.

Standardization of reservoir refill criteria is necessary to resolve an issue between reservoir operators and other legal users of water regarding the application of the “no injury” rule to stored water transfers. The need to ensure that refill does not occur at a time when in-stream flow pulses are needed is a valid concern, that will be addressed through project-specific environmental impact assessments. CALFED does not intend to complicate resolution of this issue with additional environmental requirements, when other regulations already provide this assessment and necessary mitigation.

4.5.4 Streamlined Approval Process for All Transfers

WT 4.5.4-1

The actions discussed in this section in the Water Transfer Program Plan are intended to make application for and approval of water transfers more timely. CALFED is developing a web-based transfer application system that would provide all relevant information to applicants, to ensure that applications are complete when submitted and to fully inform applicants of all policies and criteria. This system will help to better inform proponents of what is required and ensure that reviewing agencies consistently apply their requirements (and that their requirements are fully understood by all parties).

WT 4.5.4-2

The guidebook is currently available through the SWRCB (www.waterrights.ca.gov). The guidebook provides a useful overview of current water transfers policies and procedures. CALFED is working with the agencies with jurisdictional authority to review and approve transfers in order to make other improvements to the review and approval processes. These activities will require more stakeholder involvement as CALFED proceeds with implementation during Stage 1.

4.5.5 Expedited Approval Process for Some Transfers

WT 4.5.5-1

The development of expedited approval processes cannot occur until other water transfers issues are resolved, especially the need to clarify when water is transferable. CALFED expects to involve stakeholders during Stage 1 implementation in looking for opportunities to expedite particular types of water transfers, possibly with the development of programmatic environmental compliance, similar to how Reclamation handles transfers within some of its delivery units.

4.6.1 Forecasting and Disclosure of Available Capacity in Existing Project Facilities

WT 4.6.1-1

The action described in this section in the Water Transfer Program Plan is intended to improve on existing forecast disclosure mechanisms.

4.6.2 Evaluating Policies for Transporting Water in Existing Project Facilities

WT 4.6.2-1

This section in the Water Transfer Program Plan describes a process intended to improve predictability and reliability, if possible, for water transfer proponents to gain access in project conveyance facilities beginning early in Stage 1. CALFED recognizes that conveyance restrictions are a serious impediment to cross-Delta water transfers and that Program actions such as the Environmental Water Account will also be competing for any available capacity. These restrictions are often the result of necessary operational protocols.

4.6.3 Establishing Priority for Transfers in a New Conveyance Facility

WT 4.6.3-1

This section of the Water Transfer Program Plan was intended to address how to allocate capacity in an isolated facility. Actions such as those proposed in the Preferred Program Alternative are considered, for purposes of the Water Transfer Program, as improvements to “existing facilities” even though they may require new construction. We apologize for any misunderstanding. Discussions about improving access to “existing facilities” are called out as a CALFED action (see Section 4.6.2 in the Water Transfer Program Plan for details on how CALFED intends to proceed).

Also, CALFED has not considered that a portion of any new storage facility capacity would be dedicated to water transfers. That decision was assumed to be left to the owner of the storage facility (the local public entity, private company, or state or federal agency).

5. Implementation, Governance, and Finance Issues

WT 5.3.1-1

Water transfer proposals will continue to be subject to numerous requirements that may result in their approval, conditional approval, or denial. The Water Transfer Program is designed to ensure that all parties have a better understanding of the potential impacts related to particular transfers and that those impacts are avoided or mitigated prior to approval. Third-party interests should not be burdened with costs associated with water transfers.

WT 5.3.1-2

In reference to the third bullet on page 5-5 in the June 1999 Water Transfer Program Plan, the sentence has been modified to read:

“All agricultural and M&I water suppliers and users would benefit from environmental water transfers because, as environmental conditions improve, implications of regulatory conditions on water diversions should be reduced.”

Attachment A

WT A-1

CALFED's consensus-based effort resulted in CALFED's planning for the establishment of an information clearinghouse and recommending requirements for additional impact analysis (as described in Section 4 in the Water Transfer Program Plan). There was no consensus on establishing another regulatory entity to review water transfers.

Attachment 1

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